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ABSTRACT

This document is a compilation of the proceedings of the 23rd Annual State California Conference on Educational Research. The theme of the proceedings centered around accountability and curriculum. Each participant submitted his remarks on specially designed paper; each page was photographed and prepared without editing. The three general sessions covered 1) educational growth; 2) performance contracting--the Dallas experiment; and 3) teaching performance tests at three levels of accountability. Twelve symposiums included the development of behavioral objectives, the impact of program planning, the effects of accountability on evaluation and research, the legislative demand for accountability, performance contracting, and accountability in mathematics, social science, language arts, vocational education, pupil personnel services, higher education, and affective domain. A 63-item bibliography is included. (MJM)

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PROCEEDINGS OF THE 23rd ANNUAL STATE CONFERENCE

ON EDUCATIONAL RESEARCH

"ACCOUNTABILITY AND THE CURRICULUM"

EL CORTEZ HOTEL

SAN DIEGO

Conducted by

CALIFORNIA TEACHERS ASSOCIATION

FOR

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on

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NOVEMBER 18-19, 1971

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INTRODUCTION

CONFERENCE PROCEEDINGS HAVE BEEN AN ANNUAL FEATURE SINCE 1958. PRIOR TO THAT DATE, AN ANNUAL REPORT WAS GIVEN ABOUT THE CONFERENCE AFTER ITS CONCLUSION.

EACH PARTICIPANT THIS YEAR SUBMITTED HIS REMARKS ON SPECIALLY DESIGNED PAPER. EACH PAGE WAS PHOTOGRAPHED IN ORDER TO PREPARE A PLATE SO THAT THE PROCEEDINGS COULD BE PRINTED AS SUBMITTED BY THE AUTHORS, WITHOUT EDITING BY THE CTA STAFF.

CTA ASSISTANT RESEARCH EXECUTIVE, DONALD P. GLASER, IS CONFERENCE PROGRAM MANAGER AND JOSEPHINE BROCK IS CONFERENCE PROGRAM SECRETARY.

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FIRST GENERAL SESSION

SPEAKER: J. RICHARD HARSH
SOUTHERN CALIFORNIA REPRESENTATIVE
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TOPIC: "BIOPSY OF AN EDUCATIONAL GROWTH"

BIOPSY OF AN EDUCATIONAL GROWTH

J. Richard Harsh
Southern California Regional Office
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Preamble: What Is The Entity?

The anatomy of education has acquired a new entity which is being variously referred to as a mutation, an affliction or a new metabolism. This new entity has been labeled "accountability." The fascinating thing about labels is that they are widely used by persons having diverse understandings and attitudes toward the entity which the label represents. It is much like the attempts of the three blind men to describe the nature of an elephant from their single and separate perceptions derived from feeling the trunk, the ear, and a hoof.

Although some may scoff and remark, "It's just a word that is a fetish for the moment, and it will fade away," it can't be denied that newspapers, textbooks, entire issues of professional journals and innumerable regional and national meetings have nominated this entity (accountability) for prime focus and attention. What indeed is this entity that has been attached to the anatomy of education? Is it a newly identified but always existent gastro-intestinal distress? Is it a mutational growth such as an extra eye, heart or gland? Is it a carbuncle, boil or rash? Or is it a new homeostatic process of the organism? The biopsy to be presented does not assure a discrete clinical diagnosis, but it is hoped that we may consider the etiology of current behavioral manifestations.

Old Wine In New Bottles

There is substantial evidence in the recorded history of previous ordered societies that the abstract idea of accountability was recognized as a concern to the members of the society and the basis for organization and action. Concern for the development of the young and the means by which such should be attained can be identified in the tribal societies, the Greek or Roman civilizations, the feudal societies or the Deluder-Satan laws of the New England colony of Massachusetts when the nation was first organizing a new society. Although education was assigned to and performed by different persons (such as by the adults in the family, a tutor and a student on a log, or a work group), the society had expectancies for how the members of that society should develop and

contribute. Moreover, individuals and groups were responsible for that development; and if a member of the society did not develop as expected, there were even such strict accountability consequences as banishment of the individuals responsible from the society. The Deluder-Satan law (an accountability pronouncement) was an interesting one, for it explicitly stated the rationale and predicted consequences if the younger generation did not acquire the skills and knowledges from appropriate reading. In essence, that colonial society was saying that education of the young was the imperative to prevent them all from falling into the tentacles of the devil. Parents, teachers and the town council were to be held accountable (and pay a fine) if the desired developments of the young were not achieved.

If such historical data is accepted, then one must conclude accountability is an abstract concept that has been and is present in any ordered society. Society holds its members responsible and accountable for specified individual development. The major variations in this concept appear to be related to the question, "Who is responsible for what?" This is particularly crucial as one views the institution or system of education that has emerged in the last 200 years. The reorganization of institutional roles (and responsibilities) has resulted in the system of public education being ambiguously and variously perceived and held responsible for a vast array of the observed developments of the population. Society grimaces from the pain of such troublesome problems as defective communications, antagonistic social and cultural values, economic distress, changing vocational demands, and the disappearance of previous roles of individual participation in the society.

There is no doubt that society is reacting to this discomfort by saying someone or something is responsible! A natural avenue to explore is the means by which the population has learned to be as they are. Ergo - the educational system could or should be responsible. Moreover, education must be accountable for what it produces.

So for the figure of speech, "old wine in new bottles," I would submit that societal concern for its members' development is "old wine," while "who is responsible for what?" is a current "new bottle" demand that there be accountability assignments to the institutions or systems of the society. The "new bottle" seems to be the label of accountability for education. However, the prolific discourses on the label (accountability) suggest that this new bottle for old wine holds all sorts of elements, medicines and substances.

What's In This Vessel Labelled Accountability?

It is apparent from the literature and ongoing discussions that various members of our society (and our educational systems) believe the bottle labelled "accountability" may contain any of the following:

1. A strong drug that will cure the educational organism of an acute illness. At this time the exact characteristics of the illness are not defined.

2. A tapeworm which, if inserted into the organism, will be capable of growth in segmental units that will measure the health and productivity of the system.

3. An invisible gas that is odorous and unpleasant but will gradually disappear in the atmosphere.

4. A potent new vitamin that will create a new metabolism of the organism and greatly increase its productivity.

5. A dye that, when inserted intravenously, will identify the living and productive vs. dead and non-productive cells of the organism.

Of course there are a host of other concept defined or imagined that are important because the individuals holding these opinions are convinced that their definition is what accountability means or holds in store for them. The disparity of these expectancies for what will result from the phenomenon of accountability contributes to the ambivalence and confusion in emotional and cognitive reaction.

The emergence of accountability has not been limited to the variety of expectations; it has also been associated with the development of new mechanisms or systems by which it is to be attained. The following are illustrations of the procedures or systems that have been suggested as the means by which accountability may be explicated and realized:

1. P.P.B.S. (Planning, Programming, Budgeting System) - a management technique first employed by the national defense effort, which was designed to identify the relationships between the quantity and quality of products and the costs of alternative methods of production. In the national congress, it was referred to as the procedure to insure "more bang for the buck." All of us are aware of the substantial efforts in process in this and other states to design such a system for education. Indeed a guide and accounting manual are being compiled and field-tested at this time.

2. PERT (Program Evaluation Review Technique) - a management tool designed to assist school personnel to describe and monitor the operation of a program or system.

3. Systems Analysis - a variety of operational research techniques including computer simulation which will define and analyze the components of a system and their interactions.

4. Performance Contracting - A school system specifies desired outcomes with a desired pupil population and enters into a contract with an agency for the provision of educational experiences that will produce the desired outcomes in the pupil population. Guaranteed performance contracts specify that the contractor will not be paid if the specified outcomes are not achieved.

5. Turn-keying - the process whereby a program established and operated effectively by a performance contract is adopted by a school system and operated by its personnel.

6. Program Auditing - the independent examination of an educational program or performance contract to verify results, processes, personnel and the contents of the activities.

7. Education Vouchers - suggests a means by which parents could buy in a "free market" the particular school program they selected by presenting a voucher for tuition issued by a school district or government agency. The implementation of such a plan implies the availability of financial and program audits, standards of educational quality and evaluative data to potential parent-purchasers.

8. Incentive Pay - the rationale suggests that teachers will be paid on the basis of the performance or achievement of their pupils.

The political arena has produced a wide variety of studies, commissions and task forces to accelerate the design and implementation of techniques and systems which will provide the information data-base for accountability. The commissions directed to work on cost-effectiveness models, goals and evaluation, and budgeting and accounting systems are illustrative of the apparent conviction that if a plan and procedure can be developed, a legislative mandate will insure designation of responsibility and indices for cost-effectiveness accounting for the educational program. The proliferation of these commissions and task forces has produced a new quest for "Who shall be the one to whom the educators are ultimately accountable?" And the divergent ramifications go on!

Problems, Chronic Pains, Symtom Complaints Associated With the New Entity

The under-statement of the year might be the observation that the total professional community related to education does not enthusiastically embrace accountability (as divergently understood and discussed).

Easy acceptance, ambivalence or negative reactions appear to result from imprecise answers to the following questions:

1. What are the schools to be accountable for? For all aspects of affective and cognitive student accomplishment and development? Such implies that there must be explicit and detailed statements of the anticipated outcomes in behavioral terms that are susceptible to observation or measurement. Most educators would observe that detailed specifications of anticipated outcomes do not exist, and even those that do exist have not been accepted by the various community and school-related populations as relevant, needed or appropriate.

2. Who shall be accountable? Cold logic would suggest that each person whose task it is to influence learning - teacher, principal, curriculum coordinator, counselor or whoever - should be held accountable for precisely that part of the educational outcome which he can effect directly through his own efforts. Ambivalence

to such specification is born from a reflection upon the complexity of human behavior as well as the infinite interrelations of environmental effects.

3. How shall accountability be established? Obvious to all is the need for a method of relating input factors to process and outcome in a manner that will permit appropriate attribution of the outcomes to the various input elements. Accountability requires a comprehensive information system for providing reliable information on the input, content, process and products of the educational program.

4. By whom shall accountability be determined? The insistence that self-evaluation is biased has promoted the notion that independent-external auditors or evaluators are desirable. On the other hand, program participants have recurrently voiced suspicion about the relevance of the process, measures, and data treatments that will be used as a means of judging the effectiveness of educational programs. As frequently observed in programs of evaluation, the person being evaluated is concerned with the understanding, knowledge and criteria which will be used by the auditor or evaluator.

Although these four questions are ostensibly simple and straightforward, they are (from our experience in deriving explicit answers) complex and time-consuming if they are to have enduring acceptance and application. This seems to be capsulized by Richard E. Schutz in his article Development in Education (1970), when he called attention to the great distance between "construct" and "construction" in education. He observed that publicity, desire, political pressure and potential are not sufficient to convert constructs into construction. It seems that efforts to this point in time in implementing accountability through performance contracts, PPBS or criterion-referenced measures of behavioral objectives are still largely near the construct end of the construct-construction continuum.

The incomplete and generally non-functional status of accountability systems seems to stem from naive assumptions of how ideas or constructs are transformed into realities. Many assume that rhetoric and intellectual exercises related to definitions, issues and implications are sufficient to result in delivery of operational systems. In contrast, the transition from theory to practice is more a process than a point. To me, a salient question is: How do you get an idea such as accountability into the bloodstream, nervous system, actions and interactions which are fundamental to the initiatives, responses and procedural patterns of a school system?

Felix Lopez has made some useful observations related to why efforts to implement accountability have been unproductive. He lists the following pitfalls:

1. Unrealistic management and legislative mandates in time and scope.

2. Imposition of accountability measures on unwilling and uncomprehending staff.

3. Misconception by management that accountability is an end rather than a means.

4. Installation of system without build-up of background and understanding of the accounting policies and procedures. (What information will be used for what purpose.)

5. Expectation of great accomplishment and parsimonious answers with over-simplified procedures and minimal resources.

6. Low or unknown reliability and validity of the measures to obtain data on which the accounting of accomplishment is to be judged.

The foregoing pitfalls are suggested by Joseph Mazur to have existed because accountability was perceived as an externally initiated pressure, conceived and popularized by individuals who are safely protected from responsibility for day-to-day operation of the schools. Political types have threatened that "others shall be made accountable for their actions," and the external threats of accountability have been maximized. Such perception is in sharp contrast to the conviction that an accountability system is a means by which planning, documentation, evaluation and re-planning of the educational program may be facilitated.

What About the Measures of Change?

The new growth has produced anxiety if not distress among some of our most knowledgeable colleagues in the field of measurement. This has resulted from the simplistic suggestion that to observe students' growth during an instructional period, the accounting of that growth may be derived by subtracting the pre-test score from the post-test score. Further concern is directed toward using such computations with normative scores such as grade placements, for judging the change of behaviors of individual students during relatively short instructional periods such as three, five or seven months. In the haste to have hard data, such essential considerations as the standard error of the measure, chance scores below the floor of reliable measurement and other forms of error variance have been ignored.

Program participants, in perceiving the necessity to show change on whatever is selected as the criterion measure of accountability, have unfortunately occasionally adopted the position that "We'll show em; we'll just teach the kids the contents and answers to the test items." Such a reaction reflects lack of understanding that any test of necessity only represents a sampling of a very large content domain; and by such exclusive emphasis upon the test, the comprehensive content of the curriculum is abandoned for the limited samples of the test items. What is perhaps most regrettable is that, while a fallacious momentary gain may be shown (over a six-month pre- and post-testing with teaching to the test items), the lack of substantial, usable and enduring achievement is reflected in the subsequent year of instruction.

In the accountability mode, the relevance of the content sampled by the measuring device to the content and objectives of the educational program is a common concern. While there is frequent insistence that nationally standardized measures should be used to observe change in student performance, there is nearly equal reaction that such tests may not accurately assess the particular contents and objectives of a particular school program. Criterion referenced measurement for the explicit objectives of a local program has been suggested as the solution to this problem. Unfortunately this is not an easy or quick solution.

Roger Lennon has ably indicated that while there is much that can be said positively about such an approach it is not yet altogether clear how a series of criterion-referenced tests can be translated into units that will yield measures of gain or growth. Lennon also observes that criterion-referenced tests (of good quality and scope) will be time-consuming and costly to produce. Moreover, the methodology for the development of criterion-referenced measures is less well explicated than the development of norm-referenced tests. It seems clear that criterion-referenced measurement holds exciting potential as well as the need for rigorous development in theory, methodology, instrumentation and analysis.

Since accountability is dependent upon extensive, reliable and valid information, the concern for the manner in which measurement is obtained is a critical professional problem. Time limitations of this brief biopsy prompt the suggestion that there must be increased study and understanding of the technical problems of measurement that have been discussed by our professional colleagues such as Lord, McNemar, Stake, Wardrop, Lennon and Cronbach.

Treatment and Nurture of Accountability

It is not the intent of this analysis to produce a "great lament" or a new version of the "Perils of Pauline." In contrast, it is my conviction that the idea of accountability as applied to the organization and conduct of an educational system is a venerable and potentially powerful approach to increasing the understanding, management and improvement of the educational program. This conviction directs us to look to the means of nurture that may allow such a potential to be realized.

Henry Dyer, who has devoted thoughtful attention to the analysis and conceptualization of the application of accountability in educational systems, has written extensively of the many facets and complex interrelations that must be recognized and planned for. Dyer suggests that the three interrelated aspects of accountability are concerned with legal, moral and informational considerations.

The legal aspect of accountability has to do with the means for ensuring that all the people in the educational system will act in accordance with the goals of the system. The focus of attention is upon effective action by all parties: voters, policy makers, administrators, teachers, specialists, parents and pupils. The legal aspect also refers to

the authority and contractual relationships by which the system operates. In the broad sense, all of the parties have a responsibility to some or several other parties. If the concept of legal accountability is to be a positive force in improving the quality of education, it is imperative that authority and contractual agreements are based upon sound educational goals and explicit agreements for the means of achieving the goals.

The moral aspect of accountability has been defined by Dyer as "the ingrained habit of having care for others, particularly students, and being generally concerned for their growth and well being as persons." While moral agreements cannot be legislated into belief and personal action, there is needed concern that contracts emphasizing methods and outcomes do not overlook or inadvertently destroy the moral accountability of persons engaged in the educational process.

The information aspect of an accountability program seems to be most fundamental to make the educational system functional. It is important to emphasize that an educational system is a people system. It is a system made up of all kinds of people - policy makers, parents, teachers, administrators, pupils - all of them accountable for continally making decisions about how well the system is serving the pupils' needs. As people are constantly making decisions, there is a need for everyone to have accurate and comprehensive information about the context, input, content, process and outcome of the program. Indeed all of the several types of people related to the educational system must be held accountable for supplying, receiving and using information for decision making. Moreover, it is imperative that the exact nature of the information provided from parents, pupils, teachers or policy makers be available and understood by all if the multi-directional flow of interactions and decisions may contribute to an effective system.

Dyer suggests that the three aspects of accountability are different ways of looking at the same unitary concept, and no one makes any educational sense unless the other two are also kept in mind. For example, everyone connected with an educational system has a legal and moral responsibility for providing necessary information to keep the system working effectively. At the same time, the information is necessary as a means of determining whether the people are fulfilling their legal and moral obligations to the goals of the system. Furthermore, there is ample evidence to suggest that legal directives are not likely to be accurately implemented and have much effect unless they are girded by moral commitment to the importance of meeting the educational needs of the children served by the system.

The foregoing aspects of accountability which are operating in a people system must have clear definition and acceptance by all participants. If there are some participants who believe that by imposed authority or external mandate they are being held accountable for unacceptable outcomes or pupil achievements that are beyond their influence - then the resultant "hang-up" by those concerned is the redirection of energy to oppose or neutralize the "external enemy" that is threatening the

internal family. This has been referred to as the "we and they syndrome." Typical comments of those perceiving such a condition would be: "It isn't what I do; it's the irrational demands or the problems 'they' create that cause all the difficulty." Of course the "they's" may be certain participants in the system, policy makers, or just an undefined population that inhibits the efforts of the "we" group.

If accountability is to make a transition from concept to successful practice, it must be developed through the support of top leadership, but actively engaging all the related participants that include teachers, parents, policy makers, pupils, service personnel, etc. Joseph Mazur has suggested that, to initiate a system of accountability, it is necessary to create opportunities for the staff and other participants to be accountable. The first step in operationalizing accountability is to build readiness levels in each school by introducing, trying out and internalizing the various elements of accountability. Such a thesis argues that a successful transition experience will be necessary to all personnel concerned with a school system so that accountability may produce better results than those obtained with present practices and attitudes.

In addition to building acceptance of the construct and readiness, it will be necessary for each school system to find assistance in developing the capabilities for generating information for planning, development and evaluation. Among other things, this means that valid and reliable information must be obtained, summarized and communicated for the continuous process of decision making. The repeated reference to the essential need of comprehensive information or an educational accounting system also implies that the families or types of information must be coded or identified so that they may be related to the several aspects of the educational system. Even with automated data processing, files of data have commonly been accumulated that could not be interrelated to instructional content, method, anticipated achievement, input characteristics or staff and facility conditions. This condition has formed a substantial obstacle to adequately describing the educational system and its functions in relation to observed developments of the student population. Recognition of this inadequacy has prompted Stufflebeam to describe the C.I.P.P. model for evaluation, the conceptualization of C.E.I.S. (California Educational Information System), Dyer to create a Pupil-Change Model of a School as a Social System, etc. Figure 1 presents Dyer's conception of the information concerning four groups of variables identified as input, educational process, surrounding conditions, and output. Input represents the entering characteristics of the pupil population with which the school program must cope. The pupil output is concerned with the attained accomplishment of the educational objectives. The surrounding conditions include all those factors in the school environment that may influence how the instructional program operates and pupils learn. Finally, the educational process variables include all the facilities and activities in the school that are designed to accomplish the specified goals of the educational program.

This model indicates the necessity for all variables to be measured and appropriately interrelated in various combinations to produce

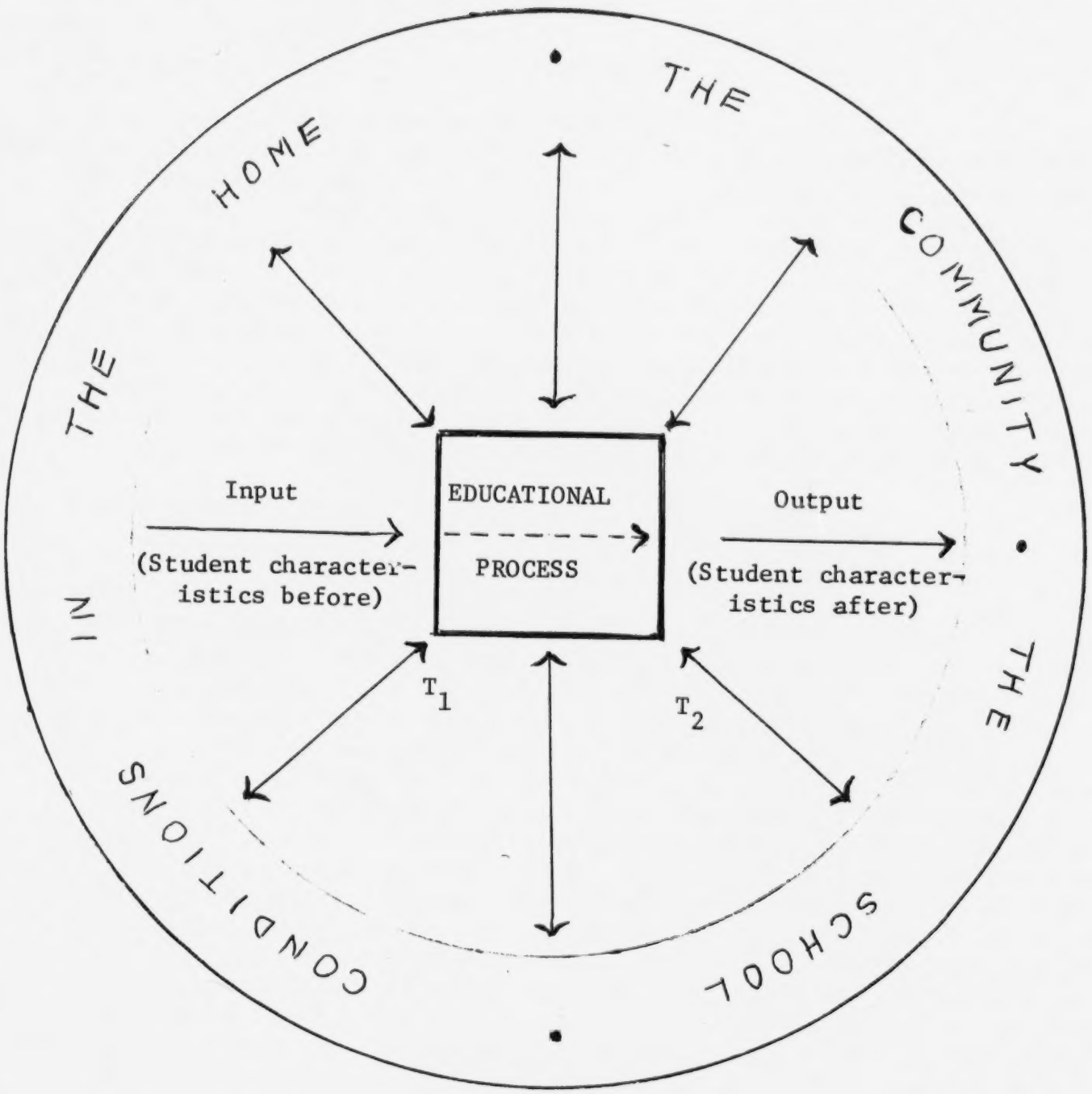

Figure 1

The Pupil-Change Model of a School
as a Social System

interpretable indices by which the staff can observe how its own efforts are producing desired pupil change, after making due allowance for those variables over which it has no control. Such school effectiveness indices are conceptualized as being derived through a series of regression analyses.

The Entity and the Enduring Purpose of Education

From this kaleidoscopic view of the entity labelled "accountability," we have viewed quickly the variety of attitudes and understandings that have emerged. Differential diagnosis of the existing condition or prognosis for the future health of the anatomy of education has not been attempted.

The analysis of the symptoms, treatments and growths suggests that the construct of accountability holds high potential if it is viewed as an ongoing procedure that must be planned, initiated and implemented in education, which is a people system that should not be compared with an industrial operation dealing with inert materials.

The statement by Dyer summarizes the foregoing conviction - "It must be constantly kept in mind that the educational process is <u>not</u> on all fours with a manufacturing or industrial process; it is a social process in which human beings are continually interacting with other human beings in ways that are imperfectly measureable and predictable. Education does not deal with inert raw materials but with living minds that are instinctively concerned, first with preserving their own integrity, and, second, with reaching a meaningful accommodation with the world around them. The output of the educational process is never a finished product whose characteristics can be rigorously specified in advance; it is an individual who is sufficiently aware of his own incompleteness to make him want to keep on growing and learning and trying to solve the riddle of his own existence in a world that neither he nor anyone else can fully understand or predict."

I have enthusiastic commitment that we may make progress in furthering a central purpose of education, which is to increase our understanding and rational means for decision-making and coping with our environment through effective and reliable information systems and accountability. At the same time, humility is suggested when we consider the dynamic and unique complexity of each individual in our society. As with an iceberg, there is much of human behavior and existence that is not externally visible. So as we progress to develop better systems for our educational systems, my hope is that we will also try and see the man or woman each individual is trying to be.

Bibliography

Barro, S. M., "An Approach to Developing Accountability Measures for the Public Schools," Phi Delta Kappan, 52: 196-205, 1970.

Cox,Richard C.,"Evaluative Aspects of Criterion-Referenced Measures," Paper prepared for AERA Symposium, Minneapolis, Minnesota, March, 1970.

Dyer, Henry S., "Controversial Aspects of Educational Accountability," The United Teacher, November 22, 1970.

- - - - - - "Perspectives on Educational Accountability," Invited address, Harrison House Conference, January 23, 1971.

- - - - - - "Toward Objective Criteria of Professional Accountability in the Schools of New York City," Phi Delta Kappan, 52: 206-211, 1970.

Ebel, Robert L., "Some Limitations of Criterion-Referenced," Measurement Presentation to AERA symposium, March, 1970.

E.T.S., Proceedings of Conference on Accountability, Washington, D. C., Hollywood,California, March, 1971.
Proceedings of the Conference on Educational Accountability, Chicago, Illinois, June, 1971.

Lennon, Roger, T., "Accountability and Performance Contracting," Invited address to AERA, February 5, 1971.

Lessinger, L. M., "Accountability in Public Education, "Today's Education, 59: (5) 52-53, 1970.
"Robbing Dr. Peter to 'pay Paul'; Accounting for Our Stewardship of Public Education," Educational Technology, 11: (1) 11-14, 1971

Mazur, Joseph L., "Operationalizing Accountability," Invited address, Tampa, Florida, 1971.

Popham, James W., "Indices of Adequacy for Criterion-Referenced Test Items," Paper presented at AERA, March, 1970.

Schutz, Richard E., "Development in Education," Journal of Research and Development in Education, Volume 3, No. 2, Winter,1970.

Stake, Robert E., "Testing Hazards in Performance Contracting," Phi Delta Kappan, Volume 12, No. 10, June, 1971.

Stake, R. E. & Wardrop, J. L., "Gain Score Errors in Performance Contracting," Unpublished Manuscript, University of Illinois at Urbana-Champaign, 1971.

Tumin, Melvin M., "Evaluation of the Effectiveness of Education: Some Problems and Prospects," Interchange, Volume 1, No. 3, 1970.

SECOND GENERAL SESSION

SPEAKER: DR. DONALD R. WALDRIP
ASSISTANT SUPERINTENDENT--ACCOUNTABILITY
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DALLAS, TEXAS

TOPIC: "PERFORMANCE CONTRACTING--THE DALLAS EXPERIMENT"

PERFORMANCE CONTRACTING: THE DALLAS EXPERIMENT

Dr. Donald R. Waldrip

(Dr. Donald R. Waldrip is Assistant Superintendent: Accountability and Personnel Development for the Dallas, Texas, Public Schools. He received his B.A. and M.A. degrees from Midwestern University and his Doctorate from Nothern Colorado University.)

Dr. Gowan, when inviting me to participate in this conference, asked me to give "substantially the speech given at ETS" in Hollywood last March, "updated by the results you will have in hand in November." If more had been asked of me, I could not have complied. In addition to the fact that the evaluation was not completed until eight or ten days after the deadline for submitting this paper had past -- not a very accountable way for our evaluation team to perform -- enough crises have occured in Big "D" that accountability and performance contracting have not been given priority status of late.

In fact the biggest D in Dallas lately is desegregation. On August 8, 1971 the Federal District Court gave its initial order to Dallas to implement a prescribed desegregation plan. Two amendments, two stays, and three clarifications later, we are still doing very little in Dallas but implementing orders, stays, and clarifications. We opened school two weeks late, and since that time, all available manpower has been riding buses, chasing down rumors, and answering telephones constantly and endlessly. We reassigned 7,000 teachers and twelve thousand students during a five day period. We have for several weeks now been working literally twelve to fourteen hours a day.

We thought that the drive for accountability in Dallas brought about frustrations, but it was nothing to compare with the drive for desegregation. But perhaps our drive for desegregation will ultimately accomplish more for the disadvantaged student than all the compensatory programs we have attempted, including performance contracting, combined.

For five years -- ever since the passage of the Elementary and Secondary Education Act gave us the extra financial boost we needed to develop compensatory programs -- we had been trying all the old tricks and most of the new to improve achievement among those children whom we call the "culturally disadvantaged." Along with other school districts all over the country, we bought shiny new hardware and clever new software; invested in workshops and seminars for our teachers; sent our kids to concerts and museums and factories and even -- courtesy of Braniff Airlines- up over the city in planes. In sum, we waved the banner of innovation as energetically as anyone.

Naturally, even though we got a considerable boost from Title I and other forms of federal aid, our costs went up. They tripled in the last 10 years -- mainly because of new construction, salary

increases, and improvements such as air-conditioning; but partially because we asked the citizens of Dallas to stretch federal dollars with their own. And when we totalled the results of this financial exertion on the part of the taxpayers, and of the spiritual exertion on the part of our teachers, we found we didn't have much to be proud of.

Our target had been those schools in which students were averaging only a half-year's achievement gain for every full scholastic year. By the time we finished, we had not managed to improve on this sad record; in fact, some of our Title I schools were worse off in 1970 than they had been in 1965.

Any sane school administrator is reluctant to hang out his dirty linen for public viewing. I cannot suppress a certain sense of embarrassment even now, as I speak. All that gives me courage to do so is the knowledge that virtually every other large city school system in the country has had the same experience as Dallas. Five years and five billion dollars after Title I was passed, we still have not learned how to break the cycle of under-achievement that sees children from poor homes do poorly in school; find poor jobs or none; marry -- and then send their own poor children to school.

But though this failure remains constant, some things <u>have</u> changed in education -- notably the public attitude toward those who run it. Ten years ago, we educators confidently asserted that we knew how to cure educational illness. All we needed was enough money to lower pupil-teacher ratios, put a library in every school, an overhead projector in every classroom, and so on and so forth. Our prescriptions for educational excellence were based on traditional notions that went unchallenged because a stingy public had never allowed us to try them.

During the 1960's, we got a chance to try them; not as much of a chance as we would have liked, perhaps -- too many school systems spread Title I funds around so thinly that the extra money could not have any impact. Nevertheless, we were given a reasonable chance -- and the results did not justify the investment. And today, it is clear, the public does not believe it is getting its money's worth from public education.

Thus there is a public frustration as well as a professional frustration behind the drive for accountability. Public school systems have developed extremely precise methods of accounting; most of them can tell you to the penny how much they spent for teachers' salaries, textbooks, red and blue litmus paper, and the wax on the gymnasium floor.

But they cannot tell you what this investment <u>produced</u>. Our focus in educational accounting has been on <u>input</u>, not <u>output</u>. Professor Dwight Allen of the University of Massachusetts has quite properly criticized the accounting methods of school systems as being irrelevant for purposes of devising new educational strategy. Per-pupil expenditures do not really tell us what it costs to <u>educate</u> a student; all they tell us is what it costs to keep a student <u>seated</u> for a year.

A much more relevant measure, Dr. Allen argues, would be a "learning-unit" cost -- the total sum, including teacher's salary, portion of total building expense, cost of textbooks and other learning materials required to move a student from one skill-level in reading, writing, or math to the next highest level. These costs, moreover, would vary from one school to another; they would be higher in a school with a majority of

children from low-income, black or Spanish-speaking families than they would be in a school with a majority of white children from upper-income homes.

Developing such a new accounting system would enable educators to show the public how much learning was produced by a certain amount of investment. It would, moreover, enable educators to shift resources back and forth within a budget -- testing, for example, the value of teacher-aides in one classroom against the value of educational technology in another and of programmed texts in a third. In each case, input would be related to output -- and educators who prescribed various teaching strategies would be held accountable for the results they produced.

Accountability is, in essence, a statement of policy. It states that educators will accept responsibility for their performance -- or lack of it. It implies that there is a contract between school personnel and the public, and that that contract involves more than showing up for work on time. It accepts the fact that culturally different backgrounds make the task of educating more difficult, but it asserts that, as professionals, educators can overcome -- or will learn to overcome -- cultural difference.

Now statements of policy are fine things, if for no other reason than that they look nice framed on a wall. But if a statement of policy is to be a genuine program rather than just a fashionable enthusiasm, it must be translated into a strategy -- a set of practical steps for turning an idea into a reality.

Performance contracting is one such technique. It is not the only one. Voucher plans are another -- and so, indeed, is any systematic effort to relate educational effort to student achievement.

Our sense of frustration in Dallas led us to try performance contracting. Our interest in it led us to two distinct programs -- one financed by the Office of Economic Opportunity, and the other by Title I. I wish today to describe the Title I program because we controlled it from the start: chose the student population, outlined the performance criteria, wrote the request-for-proposals, defined the conditions under which any successful contractor would have to work, and negotiated the final contracts.

The entire process has been carefully monitored by the most precise scientific methods. According to our most recent figures, for example, every administrator involved has lost an average of 13.1 pounds, given up 46.3 percent of his weekends, and antagonized 75 percent of his wives to the point where 100 percent of them threatened to go home to mother an average of 3.4 times. Nevertheless, innovation marches on in Dallas.

First, a note on the OEO program. It involved about 600 students in grades one through three and seven through nine in two schools; these students are matched with another 600 in a control group. The subject areas are reading and mathematics, both of which were subcontracted by OEO to Quality Education Development, Inc., of Washington, D.C. Contracts for two service components, audit and management support -- I'll explain these terms a little later on -- were awarded by OEO to Battelle Memorial Institute and Education Turnkey Systems, Inc.

The two programs resemble each other in principle, of course; the major distinction is that OEO designed one program, Dallas the

other -- hence I feel I can discuss the Dallas program with more authority.

First, the target group. Last May, we ran an analysis of underachieving high school students and selected a group whom, on the basis of our experience, we believed were highly susceptible to dropping out. By August 31, the first day of school, our predictions were proven unfortunately accurate: fully 50 percent did not show up. We divided the survivors into an experimental group of 960 and a control group of 700. The experimental group were all students in grades nine through twelve attending five Title I high schools.

We decided the program should concentrate on three kinds of instruction: first, basic skills -- communication and mathematics; second, occupational skills; and third, achievement motivation -- helping youngsters develop a determination to succeed.

The characteristics of both experimental and control groups were as follows: they were 4.8 standard scores below the national 50th percentile in reading, 6.2 scores below on vocabulary, and 4.9 scores below on mathematical skills. Their teachers and counselors indicated that each seemed to lack any desire to succeed in school, or any realistic goals in life.

When we set up this new shop, then, we chose to go after the toughest customers. Long before we picked them, however, we began thinking about the kind of program we would ask contractors to bid on. We started our planning in November 1969, with a Planning Advisory Group that comprised 30 people -- and I think it important to describe this group.

The membership included only five employees of the school district: two central staff administrators, a principal, and two teachers. The other 25 included the president of the Classroom Teachers of Dallas, which is the local NEA affiliate; seven students and ex-students; one school board member; and the rest, residents of the target neighborhoods, representatives of local colleges, local businessmen, and officials in Dallas civic agencies.

The cynical way to view this is that we were trying to minimize opposition -- and that, indeed, was one of the fringe benefits. Performance contracting seems by implication, at least, to impugn the competence of teachers, and one might expect their representatives to oppose it. But we are fortunate in Dallas to have NEA representatives who are equally alert to the interests of their members and to sound ideas for improving education. They agreed that performance contracting was a concept worth testing. Perhaps, they felt, it might be a step toward training teachers to aim for performance.

Yet minimizing opposition was not our principal objective in expanding the membership of the Planning Advisory Group. It is difficult for any educator to admit that laymen might know a thing or two about educating, but we decided to investigate the possibility.

Our humility paid off. Among many other benefits, it led us to include a somewhat offbeat course in the occupational training portion of our request-for-proposals: drafting for girls. That suggestion came from the businessmen on the advisory group -- and every girl enrolled in the drafting program has already been spoken for by a local industry.

By February 1970, the Planning Advisory Group had helped us develop a "wish-list": what we hoped the contractors could do for us. By April, we had refined that list into the RFP. (The RFP is simply a request to eligible companies to submit proposals to direct the guaranteed performance programs. It includes all the constraints imposed by the district, such as limits of students and financial resources, and it outlines the objectives as perceived by the district. Dallas mailed RFP's to thirty-one companies.) We held a pre-bid conference in May, and chose the successful contractors in July.

Now -- what had we asked for in the RFP?

The total list of performance criteria and conditions is much too exhaustive to repeat here. The most important requirements -- those which, I believe, you will be interested in -- are these:

First, in mathematics and communications, the students would have to gain 1.4 grade-levels in one scholastic year -- in contrast to the 0.5 grade-levels this particular population had been gaining. Payment to the contractor would be based on individual student gains; unless every student achieved a 1.4-year gain, the contractor would not be able to recoup his costs.

Second, in achievement motivation, the contractor would have to reduce dropout rates below those of U.S.O.E.'s five most successful Title VIII dropout prevention projects throughout the United States. The retention rates, however, would not be based on attendance in the achievement motivation classes -- since all a contractor would have to do to maintain high attendance would be to make these classes fun. Rather, measurement of the effectiveness of the achievement motivation classes would be based on attendance in the math and communications classes.

Third, with regard to occupational training, we could not define performance criteria as strictly as we could with the other two components. The essential test of occupational training is employability -- but this is affected by economic conditions as well as by educational excellence. However, we did the best we could to specify performance standards for this component by enlisting 25 local companies to work with the contractor; they participated not only in the actual training, but also in judging the quality of the program.

The New Century Company, a subsidiary of the Meredith Corporation, won the contracts for communications and math. Thiokol Corporation won the contracts for achievement motivation and occupational training. We also requested proposals for two other components: audit and management support.

Audit, essentially, is intended to keep everybody honest -- to prevent a repetition of the unfortunate experience in Texarkana. We wanted an outside agency to approve the tests given to experimental and control group students throughout the program; to check our research design so that we could appraise the effectiveness of various treatments, singly and in combination; to ascertain the reliability of data; and, finally, to certify the results so that the contractors could be properly compensated.

In contrast to the instructional components, which were contracted for on a penalty-incentive basis, the audit contract was for a fixed fee. We chose Educational Testing Service to provide the audit.

Management support, as the name implies, is to help out management -- in this case, the Dallas school system. Performance contracting was new to our staff; all of them have full-time duties, and we did not want to divert them to an unfamiliar job. Hence we contracted with the Council of Great City Schools -- again for a fixed fee -- to provide a supplemental staff that would act as liaison between the school system, the contractors, and the auditor.

In addition, the Council of Great City Schools felt that placing a few of its representatives on our staff temporarily would increase their expertise in performance contracting. In a sense, even though their people have significant experience in this area, they would be serving an internship -- learning along with us so that they could later help other school systems.

The last aspect of performance contracting that I feel you should know about is the "turnkey" aspect. The three instructional components of our program -- math, communications, occupational training -- employed the contractors' methods and materials, but they employed Dallas personnel. We insisted on this in our RFP. Moreover, we insisted that the contractors' programs be so designed that they could be adopted throughout the school system if we elected to do so.

That is what "turnkey" means. Thus performance contracting can be viewed not only as a tool for improving student achievement, but as a tool for improving the effectiveness of teachers. Each contractor agreed to train our teachers in his methods if those methods work. Each also agreed to supply us with his real expense figures, so that we could appraise the cost-effectiveness of his program. We expected each of them to make a profit; we signed the contracts, and if they could deliver, we didn't care how much each of them made. But we did want to be able to compare <u>their</u> learning-unit costs against ours, so we could decide whether their methods could be extended to other students within our budget restrictions.

In connection with the "turnkey" aspect of the program, I venture the opinion that performance contracting poses no threat to any school district's teachers. But it does pose a threat to teacher-training institutions. If Thiokol or New Century or Jim-Dandy Educational Systems can teach teachers to teach potential dropouts to read, after all the tenured Ph.D.'s in our universities have so resoundingly failed -- then I predict, we will see a lot of Ph.D.'s out of work during the next decade.

It is too early in our experiment to judge all the results. We <u>do</u> know that our target population had a much higher attendance record than their controls; these youngsters whom we identified as probable dropouts -- <u>probable</u>, not <u>possible</u> -- showed up much more often than they had in previous years.

The evaluation of the OEO project in elementary and junior high reading and mathematics has not been made available to the participating school districts at this date. Indications are, however -- based on the results of interim performance objective tests -- that students averaged more than one year's growth during one year of instruction. These results suggest that individualized systems of instruction below the high school level, when supported by sound, almost continuous monitoring and staff development, stand a good chance of succeeding with educationally disadvantaged students. It is

difficult at this point to generalize about "individualized systems," but most observers agree that the teachers in the QED program generated much enthusiasm among their students, bringing about an obvious zest for learning among the participants. Some studies, though, have discovered negative correlations among disadvantaged students between scores in criterion referenced tests and scores in standardized tests -- indicating that the cultural bias of standardized tests might be influencing results, that the criterion referenced test items are too easy, or that any number of additional factors could be blamed for the disparate results.

The high school reading and mathematics program under New Century did not bring about the expected results, although a cursory examination indicates that the New Century students did make greater gains than did the control group, even though the company did not approach its expected gains. An economist might consider the results the best of all worlds. The company did not receive its total fee because it did not reach its guarantees; at the same time, the evaluation did indicate a slight, if not statistically significant, supremacy for the treatment group.

The initial design for the high school reading and mathematics program called for all students from a 1400-student target population to be randomly assigned to experimental and control groups. As was mentioned earlier, many of these students did not show up for school during the first three or four weeks; consequently, random assignment was virtuously impossible. As the less interested students began arriving, they were put into a treatment group, leaving a great disparity in aptitude between the treatment and control groups, even though both groups were from the "target population." The bias resulting from this disparity was co-varied out in all analyses -- an almost totally unsatisfactory technique because of the difficulty of totally adjusting for mathematical differences in measured intelligence. The average intelligence of the treatment group for mathematics was 75.16, while the average for the control group was 86.31. The average intelligence of the treatment group for reading was 72.39, while the average for the control group was 82.16. These figures indicate that although the research design called for students with IQ's of less than 70 to be excluded from the program, principals let many of these special education students enter the treatment groups while excluding them from the control groups. Some of our principals needed desperately a place to put their problem students. Inasmuch as many of them are more interested in kids than they are in research (this is not all bad), they decided the New Century program with all its carrels, hardware, and contingency management systems was a likely choice.

Students in the mathematics program averaged .33 years mean gain based on the results of pre-and-post standardized tests. The control group, although averaging 11 points in IQ more than the treatment group, lost .09 years. Although the gain was greater for the treatment group, it is not great enough to be deemed significant at the .05 level of confidence; therefore, the conclusion was that performance among groups did not differ more than what would be expected by chance. But again the results were confounded by the lack of randomness within the two groups.

That the correlation between the scores on the criterion referenced tests and the post standardized tests was a mere .06, indicating no relationship between scores on the two types of tests, was an interesting discovery. Other major findings of the mathematics program are: (1) students with higher IQ's performed better; (2) eleventh and twelfth graders performed

better than ninth and tenth graders; (3) the more a student was absent, the poorer he did in the program. These three conclusions are not very startling, but they do provide corroboration for some of our biases.

Students in the reading program gained an average of .53 years, while their counterparts in the control group gained .48 years. As with the mathematics students, this conclusion persists in spite of the fact that the average IQ of the students in the treatment group was 10 points less than the average of the students in the control group. But again, the differences in achievement were not greater than would be expected by chance.

The finding of no significant difference is difficult to explain. 315 of the 334 participants in the reading program scored better than 75% on their criterion referenced tests. The correlation between scores on the criterion referenced tests and scores on the post standardized tests was -.15 -- not a very significant correlation, but one which indicates that students who tended to do better on the criterion referenced test tended to do poorer on the standardized test.

In addition to the questions concerning difficulty of criterion items and cultural biases of standardized items, perhaps the most relevant question we could ask would be "how do we get disadvantaged students to do their best on post tests?" One student whose scores indicated an eight year loss in reading ability -- a preposterous conclusion -- had actually answered more than 75% of his criterion test items correctly. Three more whose scores indicated a loss of six years also answered more than 75% of the criterion test items correctly. In fact, 79 students showing a loss of 1.0 years or more in reading fell into the same category of 75% or better on the interim performance objective tests. As in the mathematics program, the brighter students in reading performed better; the eleventh and twelfth graders performed better than the ninth and tenth graders; and the more the students were absent, the poorer they did in the program. One additional finding relates to the reading portion of the experiment only: females performed better than males.

Reading and mathematics scores were increased if the students were also assigned to achievement motivation classes. Attendance in these classes, a segment of the contracted program with Thiokol Chemical Corporation, definitely contributed to greater reading achievement. Students in achievement motivation classes attended school -- their regular classes, not just the achievement motivation classes -- 87% of the time, a marked improvement over the 73% attendance of the target population the previous year. Results of deportment scale evaluations of regular teachers would indicate that the attitudes of these students toward school was superior to the control students, even though the measured aptitudes of the control students were higher than those of treatment students.

Vocational training under Thiokol was in three areas: auto mechanics, machine metals, and drafting. 30% of all students in the three courses reached the graduate level of training and were placed onto jobs. 17% reached the apprentice level. 23% achieved the level of assistant, and 25% reached the helper level. Since all of these achievement levels are varying levels of employment, 95% of the students enrolled into these specialized, individualized programs achieved an exit level of employment.

Inasmuch as all reading and mathematics participants did not make positive gains, the computation of costs per learning unit was confounded. This computation, which was the responsibility of the management support group, was made by assuming that all students making a negative gain made zero gain. In reading, of those students for which both pre-and-post test scores were available, 213 made some kind of gain and 181 did not. Using 1.0 as the base performance unit, it would require $374.00 invested per student for each one year growth in the program.

In mathematics, 188 of 319 students made some gain, while 131 made no gain at all. The cost of this program was $442.38 per student/year growth. Of course both of these figures would decrease if more students could be moved from the negative gain column to the positive side.

We should be discouraged in Dallas inasmuch as our high school reading and mathematics programs did not approach our expectations, but we are not. This year is the first time we were able to tell our citizens, "Here is where X amount of your dollars went, and here is the amount of difference which that investment produced."

We know that a large inner city is a difficult place in which to carry out controlled experimentation, but we are not quitting. We are encouraged somewhat by the results of the interim performance tests. We are encouraged by the interest displayed by primary and junior high students in our OEO project. We are encouraged by the effect the achievement motivation classes had on attendance and achievement. We are very encouraged by the performance of our vocational students. 95% of them did in one year what it has taken two years in the past to accomplish.

Besides, we were not really evaluating performance contracting. Rather, we were evaluating certain instructional systems, and some of them will always work better than others. Our direction has changed somewhat for the coming year, and hopefully we will not repeat the same mistakes. We will be concentrating on reading in the early grades as over 11,000 primary students begin operating under some kind of performance contract during the 1971-72 school year.

We believe the results of our first year experience offer some hope. We have not found nearly enough answers to the learning problems of the disadvantaged child; but if one thing doesn't work, we will try something else. We feel we owe this to the citizens who are investing their taxes in the special knowledge which professional educators claim to possess. More important, we owe this to the parents who are investing their <u>children</u> in that special knowledge.

Most important of all, we owe it to the students, for they are investing <u>themselves</u>. Whether they know it or not, those children whom we term the " culturally disadvantaged" place most of their hopes for the future on the line when they enter our schools.

Accountability asks educators to place their careers on the line. Since our students had no choice of schools, but we had a choice of careers, this seems to me a fair trade.

THIRD GENERAL SESSION

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TOPIC: "TEACHING PERFORMANCE TESTS AT THREE LEVELS OF ACCOUNTABILITY"

TEACHING PERFORMANCE TESTS

AT THREE LEVELS OF ACCOUNTABILITY

W. James Popham

(W. James Popham is Professor at the Graduate School of Education, University of California, Los Angeles. He received his A.B. degree from the University of Portland, as well as his M.A. also, and his Doctorate degree from Indiana University.)

Most current conceptions of educational accountability recognize, in one form or another, the educator's responsibility to promote worthwhile changes in the skills, knowledge, and attitudes of learners. And in recent months there has been ample rhetoric persuading educators that an accountable stance is, indeed, meritorious. Yet, talk is notoriously inexpensive. So, until we devise some practical procedures for promoting workable systems of educational accountability, this phenomenon, as so many other educational breakthroughs, will remain an improvement vehicle at only the verbal level.

In the following remarks an effort will be made to supply more tangible suggestions for implementing accountability systems by first describing the teaching performance test, a specific measurement tactic which can be employed in various accountability approaches, next by distinguishing between three different forms of educational accountability and, finally, by illustrating how teaching performance tests can be employed in each of these three accountability systems.

The Teaching Performance Test

Perhaps the most perplexing problem facing educational researchers and evaluators since the turn of the century has been how to measure a teacher's instructional skill. The most widely used measures, i.e., ratings, classroom observations, and pupil performance on standardized tests, have all proved dismally inadequate.* There were two major defects in their approaches. First, they were often too process-focused; they tried to isolate "good teaching techniques" even though subsequent research strongly suggests there are few, if any, pedagogical ploys which will invariable work in the myriad instructional settings teachers encounter. Second, if not process-

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*A more extensive analysis of the defects in such measures, and the advantages of the teaching performance test approach, can be found in Popham, W.J., "Performance Tests of Teaching Proficiency: Rationale, Development, and Validation." American Educational Research Journal, volume 8, number 1, January 1971.

focused these measurement techniques failed to take into account the fact that different teachers pursue markedly different goals and, therefore, comparisons of teachers with differing instructional emphases yielded little more than confusion.

To eliminate some of these difficulties, a previously untried assessment technique has been experimentally tested since 1965, namely, the teaching performance test. While there is still considerable research work to be carried out regarding various aspects of teaching performance tests, they have been employed in a sufficient number of limited field trials with results which appear to warrant their further utilization.

First, what is a teaching performance test? Such tests provide an estimate of a teacher's ability to produce a prespecified behavior change in a group of appropriate learners. Here's how it works.

> First, a teacher is given an explicit instructional objective along with sample measurement items showing how the objective's achievement will be measured.
>
> Second, the teacher is given time to plan a lesson designed to achieve the objective.
>
> Third, the teacher instructs a group of pupils for a specified period of time, perhaps as few as a half dozen students or as many as a whole class.
>
> Fourth, the pupils are measured with a posttest based on the objective but unseen previously by the teacher. Pupil attitudes toward the instruction are also measured. These measures of pupil cognitive and affective results serve as an index of the teacher's effectiveness.

Performance tests have been used successfully for periods as short as 15 minutes or as long as ten hours. One of the questions currently under research analysis is how long must the instructional period be to provide a reliable estimate of the teacher's instructional skill. Similarly, there is interest in many of the shorter, more readily usable, performance tests employed to accurately predict a teacher's success in longer, more realistic teaching situations.

In general, the subject matter employed for such performance tests is novel, thereby reducing the likelihood of the learner's previous familiarity with the topic. Becuase the same instructional objective is employed for all teachers completing a given performance test, it is legitimate to compare different teachers with respect to their skill in accomplishing such preset objectives. This, of course, is the new neasurement angle. By holding constant the instructional task, it is possible to contrast the ability of different teachers to master the task.

The trick, clearly, is to control other relevant conditions so that all teachers have the same opportunity to display whatever instructional skill they possess. This means randomly assigning learners to teaching and, in some situations, statistically compensating for inequities in disparate learners' entry behavior.

As indicated before, there are still important procedural problems, that must be solved, but even now the teaching performance test can play two valuable and practical roles in relationship to educational accountability systems. First, teaching performance tests can be used for instructional improvement, that is, to help teachers get better at promoting beneficial changes in learners. Second, teaching performance tests can be employed for skill assessment, that is, to discover which teachers are particularly good or particularly bad at this type of instructional task. In later paragraphs some examples will be given of how performance tests can be used for both of these purposes under various accountability systems.

Before leaving teaching performance tests, however, a few points must be made to assuage the doubts which generally arise when educators consider this measurement approach for the first time. Beyond the procedural questions previously mentioned, there are typically concerns regarding the basic validity of this strategy. Note that teaching performance tests assess only one competency of a teacher, namely, his ability to achieve pre-specified objectives. There are surely other dimensions which should be involved in evaluating a teacher. Performance tests yield only one criterion. But it is an important criterion. Insofar as one believes the mission of teachers is to change children for the better, then any indicator of a teacher's skill in doing so should be given careful consideration.

Some will say, "But this isn't what teaching is really like. Teaching for a full day with 35 kids in a classroom is vastly different than teaching eight randomly assigned learners for a 30 minute lesson." Of course there are differences. But is there any reason to believe that a teacher who has performed miserably on several short term performance tests will suddenly blossom with pedagogical splendor in a regular teaching situation? Any kind of prediction involving human behavior is made probabilistically. Teaching performance tests, even in their current unsophisticated form, permit us to sharpen our predictions.

Educational Accountability Systems

Now turning to a consideration of educational accountability systems, let's examine the key ingredient in such approaches, for although we shall examine three different methods of implementing systems of educational accountability, there is a basic similarity in all of them, namely, an assumption that those designing or implementing educational systems must become responsible for the results those systems produce in the intended learners. This responsibility is not discharged merely by asserting that one is responsible but, rather, it

requires the accountability oriented educator to produce evidence regarding the outcomes that have been produced in learners as a consequence of his instructions.

This evidence is then made available to different individuals, since the accountable educator stands ready to accept positive or negative judgments of his instructional efforts and the subsequent actions which may stem from those judgments. Indeed, the fact that evidence regarding the results of instruction is demanded by different groups or individuals permits one to distinguish between alternative systems of educational accountability. There are major differences in the kinds of decisions which are made regarding an instructor's efforts depending upon who is making the decision. We can consider, therefore, three rather distinctive forms of educational accountability, personal accountability, professional accountability, and public accountability.*

The chief difference in each of these three forms of accountability is the nature of the decision maker who demands evidence in regard to the outcomes of instruction. In the case of personal accountability, an instructor is the initiator of any review of the results of his own instruction. Others may be called in, for instance, one or more colleagues to participate in a review, but it is the individual teacher who decides whether the review of his instructional results will be solitary or include others. For example, a teacher who carefully evaluates the kinds of changes in learners yielded by his instructional efforts, then makes decisions regarding the modification of his teaching tactics, would be engaging in a form of personal educational accountability. No one else need be involved in such decisions, but any decisions regarding instructional modifications are not capricious. Rather, the educational practitioner who is personally accountable is engaged in a systematic accumulation of evidence regarding the good or bad results of his teaching. Moreover, he is prepared to take the action dictated by the evidence. If he consults others regarding these activities, it is a totally individual decision.

Professional accountability, on the other hand is initiated by a group of the instructor's colleagues, such as the faculty members of his school or school district, or perhaps his teachers' organization. The choice to review the results of instruction is not the individual teacher's to make. There is an element of imposition present in this form of accountability, but the imposed demand for accountability emerges from within the teaching profession, rather than from external quarters. Suppose, for example, that a high school faculty voted overwhelmingly to set up a system whereby each teacher would have to produce tangible evidence of the kinds of learner progress which was

*A more detailed treatment of these accountability approaches is available in a filmstrip-tape program from Vimcet Associates, Alternative Avenues to Educational Accountability, P.O. Box 24714, Los Angeles, California 90024

being made each month, such evidence to be reviewed by specially designated teachers representing the subject field involved. The results would be made available only among the faculty, with the primary purpose being to identify ineffective instructors so they could be helped to improve. This would be an instance of professional educational accountability.

Public accountability, as might be inferred from its name, occurs when evidence regarding the quality of learner attainments is demanded by the public. For instance, if the school board requires that reasonably interpretable evidence of learner achievement be supplied to school district taxpayers each year so that laymen can reach results-based judgments regarding the school system's effectiveness, this would be a clear instance of public educational accountability.

In examining these three avenues to educational accountability, we see that the common dimension in each is a commitment on the part of the educator to assume responsibility for the results of instruction. Evidence regarding the impact of instruction on learners is systematically accumulated and then made available to one or more audiences. If the initiator of the evidence-appraisal scheme is oneself, then personal accountability is involved; if the initiators are one's colleagues, then professional accountability is present; if the initiators are lay citizens or their representatives, then public accountability is involved.

Now each of these three forms of educational accountability carries with it the potential to improve the quality of education. However, each of the three forms contains some inherent strengths and weaknesses which we should recognize. Those who mindlessly toss these three variations into the same accountability bag really confuse the picture. Accordingly, we shall examine some pros and cons of each of the three alternatives.

Turning first to personal accountability, how might it work? Well, clearly the focus in this approach is self-improvement. A teacher wants to get better at what he's doing and becomes personally liable for the changes he is producing, or not producing, in his students. Thus, for example, we might find a teacher who prior to an instructional sequence routinely establishes expected levels of learner proficiency. By comparing the actual levels of learner progress after instruction with the hoped-for progress, the teacher can reach a more defensible judgment regarding his instructional effectiveness. It must be stressed that a personal system of educational accountability involves more than a casual "look-see" at the close of an instructional sequence, even if other teachers participate in the "look". Most teachers typically get a somewhat ill-defined impression of whether they have been teaching well. A true system of personal educational accountability involves the establishment of a systematic mechanism whereby the instructor can appraise the quality of his efforts in terms of evidence regarding learner growth.

The fact that in a personal educational accountability scheme the teacher is accountable to himself is at the same time the most prominent strength and the greatest weakness. Since the teacher is the exclusive initiator of the system and, if he wishes, evidence of pupil performance is examined by no one but the teacher, the approach is obviously not very threatening. As a consequence, a good many teachers should be willing to employ it. On the other hand, since personal accountability schemes are essentially volitional and often private, it may develop that the instructors who most need to improve themselves will be the least likely to engage in such approaches. For the weak teacher, even a private mirroring of his mediocrity is not a pleasant experience.

Now let's turn to professional educational accountability, for while this less private form of accountability fails to capitalize on the chief strength of a personal accountability system, it does correct a major weakness of the personal approach to educational accountability. The distinguishing feature of a professional accountability system is that it is initiated by a group of professionals, such as a teachers' organization. Assuming it has the power to implement its plan, if the professional group requires teacher participation in the enterprise, then teachers will <u>have</u> to participate whether they wish to or not. This departure from the completely volitional nature of personal accountability obviously makes professional accountability a more threatening concept for many educators. On the positive side, the possibility that incompetent teachers could avoid participating in the system is eliminated by requiring their involvement.

In examining the merits of professional accountability we see immediately that since it is an intraprofessional operation it would be less threatening to many teachers, even if required of all. This is its major strength and represents the reason why a number of educators believe professional organizations may lead the way in promoting educational accountability systems. On the negative side, it must be recognized that professional associations have historically been very reluctant to expose or expell their ineffective members. Thus, the possibility exists that even if the professional group is unable to improve certain of its members' skills, they may not be willing to make the hard decision to re-assign or even release a weak member.

Turning to public accountability we find that citizens may act, typically through their elected representatives such as school boards or legislators, to require a system of educational accountability. For example, suppose a state legislature enacts a law requiring all districts in the state to choose one of several alternative schemes (devised by the legislature) for annually releasing to the public evidence regarding the results of instruction. Such a system is a clear instance of a public accountability scheme, the effectiveness of which would depend on the quality of the procedures worked out by the legislature.

Now the chief advantage of a public accountability approach is that because it is imposed from the outside on the educator there is less likelihood that instances of ineffective instruction will be tolerated. And since all forms of educational accountability are designed to improve the quality of instruction our children receive, that is clearly a dividend. On the other hand, since imposed from without, we shall surely find that many teachers will resist public accountability schemes with a vengeance. Some will resist because they have basic doubts regarding the wisdom of such approaches. Some will resist because of personal fears, for surely the individual most terrified by a full blown accountability system is the person least able to promote demonstrable growth in learners. It is also not difficult to imagine poorly conceptualized public accountability systems operated by ill-informed or politically repressive individuals. Some people, fearing such misuses of a system, may resist all accountability schemes.

Using Performance Tests at Three Accountability Levels

Now quite obviously one can employ all sorts of measurement tactics to flesh out any accountability strategy. This paper will only consider how teaching performance tests might prove useful.

In the case of personal educational accountability we can see how a teacher might use a performance test chiefly for instructional improvement. Either by himself or with invited colleagues, we can visualize an elementary teacher working with different groups of children for short periods after school in successive efforts to improve her skill on a particular performance test, or on a certain class of performance tests. Lessons which failed to achieve the objective would be revised. If a lesson was successful, its features would be noted for subsequent use. Whenever local or national normative data were available, a teacher might wish to contrast her performance on given performance tests with those of other teachers. If she finds that she ranks at the 70th percentile, perhaps she will be sanguine. If she falls at the 15th percentile, then improvement is clearly dictated. To recap, in personal accountability systems the chief use of teaching performance tests will be directed toward instructional improvement.

For professional accountability systems, however, teaching performance tests can be employed for both instructional improvement and skill assessment. Regarding instructional improvement, it is apparent that groups of teachers might wish to foster the use of performance tests to help their colleagues get better at accomplishing instructional objectives. Teachers would be required by a group of colleagues to participate in a series of performance test clinics which featured post-lesson clinical analyses of the teacher's instructional decisions.

But more importantly, perhaps, is the possibility that teachers' organizations will seize upon the use of teaching performance tests as

a skill assessment device to accomplish what they have always sought- control over entry into the profession. Consistent with a general thrust for professional responsibility, teachers' organizations might set up procedures, typically involving state teacher credentialling offices, in which individuals aspiring to be teachers would be obliged, along with other factors, to display at least a minimum level of skill on teaching performance tests.

Faced with external scrutiny and the possibility of imposed accountability schemes, the astute leaders of teachers' associations may also see the possibility of employing teaching performance tests in a self-regulatory system for all of their members. These teachers who displayed little ability to master such teaching performance tests could be given special instructional assistance via a service provided by their own teachers' organization. Such collegial improvement schemes might be seen as a means of warding off externally imposed teacher appraisal activities. Thus, for the professional form of educational accountability we readily see uses of performance tests for both instructional improvement and skill assessment.

Finally, for public accountability systems it appears that the skill assessment use of performance tests will predominate. In an effort to create school systems which can accomplish results, it is certainly plausible that the public might demand that teachers display at least minimal proficiency on teaching performance tests.

One obvious form this skill assessment approach might take stems from the fact that in many subject fields there are currently more applicants for teaching positions than there are jobs. Administrators must choose among these applicants and, for the good of the children, will wish to select the most competent teachers from the many applicants. As an aid to selecting the very best applicants, the school district could set up a series of teaching performance tests which must be completed by all district job applicants. The amount of time needed from applicants might be three or four hours. In many districts this type of applicant screening examination would be similar to the procedure whereby applicants for a given graduate school must complete, at their personal expense, the Graduate Record Examination whose results are considered along with other information in deciding whether to admit the applicant to graduate school. And since enrichment topics could be used for the performance test subject matter, any pupils from the district who participated in this applicant screening would be gaining new knowledge.

Reflecting the fact that such schemes have now moved well beyond the theoretical stage, one firm, Instructional Appraisal Services*, now offers school districts a complete service for the

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*Additional information can be obtained from Instructional Appraisal Services, 105 Christopher Circle, Ithaca, New York 14850.

screening of job applicants via teaching performance tests in which (1) the district supplies only the physical facilities for the testing plus a limited number of school children for a series of short enrichment lessons, (2) the main cost of the testing is borne by the job applicant, and (3) the appraisal service supplies complete supervision of the testing program plus, at its conclusion, a ranking of teacher applicants according to their skill in promoting different types of cognitive objectives as well as positive learner affect.

There are, of course, other ways in which teaching performance tests can be employed in public accountability systems. Indeed, the imaginative educator will find numerous uses for these tests, both in connection with instructional improvement and skill assessment.

The reason that the teaching performance test strategy should be particularly useful to proponents of educational accountability systems is its complete congruence with the central assumption of all accountability systems - a focus on the outcomes of instruction. Predictably, there will be procedural problems in employing such performance tests to promote different forms of educational accountability. But, as suggested at the outset of these remarks, it is only when we descend from the ethereal plateaus of rhetoric to the practical world of public schools that such problems can really be faced and solved.

SYMPOSIUM I

DEVELOPING BEHAVIORAL OBJECTIVES

Chairman: Dr. Jack M. Thompson
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Sonoma County Schools

Participants: Donald Kase, Consultant
Larkspur

Roy Carson, Mathematics Consultant
Sonoma County Schools
Santa Rosa

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PROBLEMS OF IMPLEMENTING THE WRITING OF BEHAVIORAL OBJECTIVES

Roy M. Carson, Consultant
Sonoma County Office of Education

Much enthusiasm has been generated among administrators to implement the writing of behavioral objectives at the teacher level, as a savior for determining whether a student has learned a specific concept. A new twist for sending these messages down to teachers is a coined phrase, "that by 1972 all teachers will be required to write behavioral objectives due to the state implementing P.P.B.S."

Many consultants began retraining for the task to conduct inservice training programs for teachers centered around writing behavioral objectives. The major problems that existed in conducting these programs were as follows:

1. Teachers feel that this is just another burden handed down from the administrators.

2. Another task to incorporate into an already crowded day.

3. As teachers, they were not involved in the decision-making process.

4. If administrators knew what was going on in the classroom, they could see teachers were already writing goals and objectives through their daily lesson plans.

In honoring the request of district administrators, I conducted several workshops on behavioral objectives with teachers. At first there was a degree of nonsuccess due to the lack of communication between teachers and administrators and the level of the presentation. (Many teachers had no background on the definition of behavioral objectives.) Other workshops involved the participants through audio-visual materials and a writing exercise; again a degree of nonsuccess. Success did occur when teachers were taken at their level of sophistication of knowledge on behavioral objectives (Mainly working from their lesson plans and patiently bringing them along).

Stress was given to observing the behavior of students and writing objectives based on this behavior, rather than plugging students into a predetermined objective unrelated to the students in their class. Through this process teachers agreed that trying to state objectives in terms of behavior is an eye-opener for planning.

SYMPOSIUM II

PROGRAM PLANNING IMPACT

Chairman: Dr. George M. Kibby
Superintendent of Schools
San Dieguito Union High School District
Cardiff

Participants: Stephenson R. Parker
Director, Instruction Center
California Teachers Association

J. Russell Kent
County Superintendent of Schools
County Government Center
Redwood City

PROGRAM PLANNING IMPACT

ACCOUNTABILITY
(teacher's viewpoint)

Stephenson R. Parker

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Teachers are told that schools must be accountable to the taxpaying public for the funds they spend, and accountability must be measured in terms of an improved product. In the broadest sense, then, accountability from the teacher's viewpoint is that teachers would be accountable for the performance of their students only if they share in the decision-making process which has a bearing on student performance.

Teachers want to be and must be accountable. However, accountability is a two-way street. If teachers are to be accountable, they must also be provided with the educational tools, parental, administrative and political support needed to make accountability more than just a catchword. If not, teachers will be forced to use their power to assure that they can provide the "professional" education being demanded of them.

For example, are teachers to be held accountable and hence, responsible for overcrowded classrooms in the traditional sense? Is it their fault, or better still, should teachers be held accountable for the inadequacies of the curriculum, textbooks, supplies, libraries, and counseling services, of which they played no part in determining? Is it their fault that in many school districts buildings are being condemned and pupils forced to double up?

Professional behavior. The notion of professional behavior in education is not new; it is the nearness to it that is. What is professionalism? Simply, a professional professes to know better than his clients what ails them. The professional lays claim to the exclusive right to practice that profession as a vocation -- the basis of license. The professional is expected to think objectively and inquiringly about matters which may be for the layman subject to an orthodoxy and sentiment which limits self-inflicted painful intellectual exploration.

The professional must demonstrate these four attributes: (1) a high degree of generalized and systematic knowledge, (2) primary orientation to community interest rather than to individualized self-interest, (3) a high degree of self-controlled behavior through codes of ethics, internalized in the process of work socialization and through voluntary association organized and operated by the work specialists themselves, and (4) a system of rewards (monetary and honorary) that is primarily a set of symbols of work achievement, and thus ends in themselves as opposed to some end of individual self-interest.

These four essential attributes (the sociology of a professional accountability) define a scale of professionalism, and a way of measuring the extent of accountability.

THE IMPACT OF PROGRAM PLANNING.

J. Russell Kent

(J. Russell Kent is San Mateo County Superintendent of Schools and a member of the California Commission on School District Budgeting and Accounting. He received his B.A., M.A. and Doctorate degrees from Stanford University.)

Do we really want to plan? Do we really want to clarify problems and their full implications? Do we really want to do this in the full glare of the public arena? It has always been assumed that planning was good, and in public institutions that there should be, at the least, full public knowledge of the plans, if not wide public participation in their formulation. Do we really believe this?

What are the hazards in public anticipation? What, for example, might have happened if the people of California could have known in 1950 that in the decade to follow California's public school enrollment would more than double, requiring a trebling of the investment in school facilities, while at the same time the operating cost per child would more than double? Would foreknowledge have led to more effective response than that which we actually achieved? Or would the public have backed away?

In part, the answer to these troublesome questions lies in our answer to two other questions:

(1) How extensive is our ability to foresee, and therefore, plan, not only for specific needs and problems, but also in the complex and dynamic milieu in which these problems or needs occur?

(2) Assuming some ability to foresee with accuracy, can we communicate effectively to the public the highly complex nature of the interrelationships which are involved, in contrast to simplistic oversimplifications?

It is in the seeking of affirmative answers to these questions that organized planning systems such as PPBS, or Planning, Programming, Budgeting Systems, have begun to emerge. It is important to keep in mind that at this point in time such systems rest upon the hypothesis that the answers to the questions are in the affirmative -- a hypothesis yet to be confirmed.

Systems represent an orderly or sequential approach to the accomplishment of tasks, or to the description of events, which involve multiple and interrelated components. Whether devised deliberately or evolved empirically a system is directive, insofar as it presents a structure for activity. Since a certain rigidity is an inherent quality of any "system", it becomes critically important to examine fully any system which is to operate in the area of human affairs or in human institutions.

A critical examination of program planning systems, as they might apply in California's schools leads me to the following observations:

(1) We do not yet have a working model of a PPB system which may operate in a school system. We have a concept, and we have experimental development reaching towards its realization.

(2) The techniques of systems analysis from which PPBS developed work much better in some situations than in others. They work best where there is a single goal, where this goal is tangible and subject to precise measurement, and when the outcome is proximate in time, i.e., when there is a minimum of time lapse between the input of effort and the output of product.

(3) The nature of public schools which must deal with public policy and operate in the realm of public affairs characteristically is opposite to the conditions cited above. School goals are <u>multiple</u>, not singular, presenting a strong probability of internal inconsistency which is unresolved in the goal structure. School goals tend to be <u>controversial</u> rather than accepted and understood.

School goals tend to be <u>intangible</u> rather than tangible. They are never physical products which can be weighed and counted. School goals are realizable in a <u>remote</u> rather than a proximate time period. Primarily we look forward to future performance of pupils rather than to occurrences which are to take place immediately.

All difficulties notwithstanding, change is the hallmark of our age. Are we to participate in the management of change, or are we merely

to respond to its vicissitudes? Is there any real alternative to planning as a way of life in our times? And if we are to plan in an open society how else can we proceed but publicly, and how else are we to deal with the highly complex matrix of variables but to proceed systematically?

SYMPOSIUM III

EFFECTS OF ACCOUNTABILITY ON EVALUATION AND RESEARCH

Chairman: Dr. Joseph T. Hanson
Professor of Education
Ambassador College
Pasadena

Participants: Harry Smallenburg, Director
Division of Research and Pupil
Personnel Services
Los Angeles County Superintendent of Schools

William H. Stegeman
Assistant Superintendent
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EFFECTS OF ACCOUNTABILITY ON EVALUATION AND RESEARCH

Harry W. Smallenburg

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In his keynote address to the 1970 conference of the National Association of Pupil Personnel Administrators in Indianapolis, Dr. Leon Lessinger, former Associate United States Commissioner of Education, made the following statements:

"Accountability has to do with honoring promises. It is the matching of intent to results; the comparison of what was supposed to happen to what actually happened. In education, accountability is the policy of demanding regular independent reports of promised student accomplishment for dollars provided. It is the hair-shirt policy--the responses to budget-passing time to the request for more money with the question, "What did you do with that other money?" It is not performance contracting, or behavioral objectives, or PPBS, though these inventions may be useful in implementing an accountability policy. In the final analysis, accountability is the final analysis--the hearing to get the facts to determine worth, to check results. It brings to school instruction the same flavor of inspection and feedback brought by the fiscal auditor to school finance."

This concern for accountability has been manifested in many programs and projects in California; notably, (PACE) Projects to Advance Creativity in Education, (PEP) Preparation of Educational Planners, the Program Planning, Budgeting Systems, and Performance Contracting. The most recent illustration of this concern for systematic evaluation of services is the publication of the California State Department of Education entitled "Accountability in Pupil Personnel Services: A Process Guide for the Development of Objectives."

Fundamental to all of these approaches to accountability are the following considerations listed in the above publication:

1) Stated Outcomes
2) Criterion Measures
   - Pretest Measures
   - En Route Measures
   - Posttest Measures
3) Components of the Guidance Process
   - Process Variables
   - Situational Variables
   - Pupil Variables
   - Human Support Variables
4) Cost Effectiveness
5) Between-Program Comparisons

There is a growing body of evidence that these criteria of accountability are being met in research and evaluation studies conducted in district and county offices as illustrated by reports from Covina-Valley, Culver City, the Office of the Los Angeles County Superintendent of Schools, and others.

Faster and more satisfying progress can be made as districts and county offices resolve such continuing administrative problems as assignment of time and staff to research activities and provision of inservice education for administrative, supervisory, and teaching staff.

Dr. J. Wayne Wrightstone emphasizes that long-term problems relating to evaluation continue to confront researchers in evaluating pupil growth. These include:

1) Definition of normal growth
2) Reliance on interpolated norms
3) Interlevel and interform equivalence
4) Reliability of difference scores
5) Regression toward the mean

Recognizing these problems of administration and of evaluation and measurement, research workers can continue to improve the quality of research by observing the following recommendations made to pupil personnel administrators by Dr. Lessinger:

1) Help their personnel diagnose and describe the degree of predictable improvement that can be achieved by each child served.
2) Compile and audit data based on actual experience to provide a storehouse of good practice.
3) Design precise, individual systems capable of identifying, in terms of performance criteria, the strengths, weaknesses and actual benefits obtained by each student as he proceeds through his formal education career and beyond.
4) Design programs to train the staff in the effective introduction, use and monitoring of good practice.

5) Provide plans for involving and informing other education workers and the community about successful practices.

6) Apply the recognition that all school personnel share responsibility with the home and the client for achieving results, each partner being accountable for executing those phases in which he is most competent.

ACCOUNTABILITY AND THE FAILURE SYNDROME

by

William H. Stegeman
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Public and professional demands for accountability have resulted in a flurry of "new programs." The first evaluations of these programs are now appearing. The first round with accountability shows we are failing. Is it possible that, inspite of publicity to the contrary, we are still trying to offer the same educational programs that brought about the demand for accountability? Are recent evaluations just a better job of revealing our failures?

The widely heralded "new" reading programs gave great hope to disadvantaged youth and parents. "At last," they thought, "we will now learn to read." The results are showing the same dismal results as before. The truth is, new programs have continued to teach reading in the same institutionalized way as before. New goals, new objectives, new techniques, new media, new learning styles, new programs have been neglected. Instead we have ignored research, used the same old goals, disguised our true objectives, over publicized our sketchy plans, faked action, and then are surprised by the results of the evaluation.

The diversity of society and the adaptive needs of students require a fresh look at what being educated means. If we observe the "cold war" decades of the 50's and 60's we see some disturbing trends. For example, the trend toward uniformity in curricula, overemphasis on academic credentials, growing bureaucracies as schools become larger, isolation of students and faculty from the "real world," and many other signs of rigidity make educational institutions less and less a reflection of reality.

We can not let these trends continue. We must recreate a more diverse and responsive educational system. We must expand our concepts of what is the role of the student, what is school, what is learning, and what is a teacher. We must develop many alternative paths to learning. In other words, we must become accountable for what education accomplishes and for what its true purpose is.

Evaluation must be less concerned with the needs of our educational institution and more concerned with learning as seen by the student and society. The widespread assumption that the responsibility of the educational system is to provide opportunities for the conformingly successful students must be replaced. The new system must provide an exciting and useful education for every student at every step of the educational process. The failure syndrome revealed by evaluation statistics is due to the vast range of potentially productive students

who remain outside the traditional and artificial success limits of the present system. The outsiders are producing a negatively weighted evaluation profile.

There are some guidelines that may be useful as we reconstruct our objectives, and reorient our evaluation.

... There has been reform, and its pace has been accelerated by the advent of student protest and demands of minority groups.

... There are now wholly new technologies which make a new structure possible.

... There is an increasing amount of research available on the learner and society.

... There is a mounting conviction on the part of staff, students, and society that a new institution, more relevant to our needs, is desirable and it is the process rather than the institution itself that is of greatest importance.

Along with accountability and evaluation has emerged the concept of "cost effectiveness." Unfortunately far too often the discussion of cost is limited to the question of expenditure reduction. Cost effectiveness must be less concerned with lines of a budget and more with the time, talent and results of staff and students. A conventional budget fails to reflect time and talent is used efficiently. There are also subtle and technical problems related to cost effectiveness. It is within individual programs that cost effectiveness thinking may be most rewarding. This is where making progress less costly for students is the pay off. Even here we must ask whether the teacher's lecturing actually produces as much learning as the amount of time spent guiding independent reading, or whether some type of group activity helps students grasp better the significance of the knowledge acquired. And finally, we must ask whether both costs and the quality of learning can be improved by changes in program, procedures, organization or content.

SYMPOSIUM IV

LEGISLATIVE DEMAND FOR ACCOUNTABILITY

Chairman: Dr. Thomas A. Shellhammer
Deputy Superintendent for Programs
State Department of Education

Participants: Clinton Jordan
Principal Administrative Analyst
Legislative Budget Committee
Sacramento

Harvey Hunt
Legislative Coordinator
State Department of Education

ACCOUNTABILITY OR LEADERSHIP?

Clinton M. Jordan

(Clinton M. Jordan is Principal Administrative Analyst with the Joint Legislative Budget Committee. He received his AB and MBA degrees from Stanford University.)

The term accountability has an array of definitions from the narrowest interpretation of a strict accounting of the ways in which school administrators spend funds to the broadest interpretations of various systems of statewide testing devised to determine how effective educators have been in teaching children. It is therefore difficult to discuss accountability without first establishing who is going to be accountable to whom and for what. However, this is not a serious problem if accountable activities are clearly defined. For example, state legislation requires the Department of Education to employ cost effectiveness measures in an annual evaluation of all categorical aid educational projects for purposes of determining which school district projects should be expanded, modified or replaced to produce the highest degree of program achievement and cost effectiveness.

The Joint Legislative Budget Committee recently completed an assignment to conduct an independent fiscal review and analysis of six major categorical aid education programs in California. A basic conclusion of our two year study was that the data base essential to cost-effective evaluation of the programs under review did not exist, nor had plans been developed by the department to insure this data base for future evaluations. Thus the concept of accountability becomes less important than a commitment by educational leaders to accept the yardsticks of accountability -- measurable performance objectives and evaluation systems. In other words, the emphasis must change from detailing "input" quantities to analyzing "output" measurements, i.e., the progress of the student while he is in school and how well he is able to take his place in society when he has completed his schooling.

Yardsticks for accountability can be imposed from outside the educational system or by aggressive leadership from within the system. For example, we believe that if the Department of Education is to fulfill its leadership role and meet the increasing demands for accountability at the state level, it will be necessary for the department

with the aid of the educational profession to develop a comprehensive evaluation system along these suggested lines:

1. Develop statewide measurable performance objectives for every educational program or service that receives state support. (Districts would be encouraged to develop additional measurable performance objectives based upon their local and often unique needs, goals and resources.)
2. Establish an evaluation plan for each statewide measurable performance objective. This plan should specify:

   a. Data to be collected, e.g., student profile data, comparison group data and types and timing of pre- and post-tests in basic skills and areas other than basic skills, including criteria referenced tests and diagnostic tests.
   b. Procedures for use of data including how the data will be processed, evaluated and compared on a statewide basis.

3. Rank and compare districts annually in terms of expenditures, salient characteristics and achievement on performance objectives as measured by statewide tests.
4. Publish and disseminate annually all of the above information in the form of administrative guidelines, standardized evaluation report forms and statewide evaluation analyses.
5. Conduct on-site review of those districts which ranked highest in the statewide evaluation and those which ranked lowest. Disseminate information on the most effective educational techniques observed and provide assistance to those districts found to be least effective.

Many fears have been expressed by educators concerning the use to be made of such an evaluation system -- emphasis on the dollar rather than the student, dehumanization, overreliance on test results, emphasis on short-term educational performance, oversimplification of the learning process and implications of a system of rewards and punishments to name just a few. Any evaluation or management data system may be misused. Nevertheless, decisions based upon standardized data and a rational plan provide a far greater assurance that they will be the right ones than decisions made without such aids.

Demands for accountability are increasing from those who question whether the benefits of public education are commensurate with escalating costs. We believe the leadership of professional educators in establishing evaluation systems is a necessary response.

ACCOUNTABILITY: THE SEARCH FOR UNDERSTANDING IN PUBLIC EDUCATION

Harvey K. Hunt

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There exists today a crisis in confidence in our public schools which if not met head-on immediately will seriously threaten the system for years to come. The signs of concern have been with us for some time.

- The general resistance of the electorate to approve override and bond elections
- The unwillingness at the state level to restructure our outmoded system of school finance
- The variety of popular literature which criticizes and downgrades the operation of our schools
- The introduction of panaceas, each of which is sold as the simple answer to all of our problems

Unfortunately, there is no simple response to the critics which would restore confidence in the system, since (1) there are no universal rights and wrongs and (2) the expectations for and the role of public education is constantly in a state of flux.

How then can we meet the challenges presented to us by the loss of confidence when we are dealing with a pluralistic system where our role and responsibilities are constantly changing?

We must turn to the sources of criticism and carefully examine the concerns which are expressed. A Gallup Poll in 1970 found that 67 percent of the public believed that teachers and school administrators should be held more <u>accountable</u> for the progress of their students. Webster indicates that if you are accountable you are liable to be called upon to account or answerable and that you are able to account for or explain what you are doing at any time through the use of reliable indicators.

Consequently then to increase the accountability of the system is to increase public understanding of the facts indicating the strengths and weaknesses of our educational process. In effect this means to completely open the schools to scrutiny and criticism and to be willing to accept responsible suggestions when made. There is a substantial danger in this approach which most professional educators would be quick to point out. If

we simply throw open our books to public view the untrained eye may be lead to all sorts of erroneous conclusions. The problem is aptly summarized by Dewey in The Public and its Problem when he states that

> "If one wishes to realize the distance which may lie between 'facts and the meaning of facts,' let one go to the field of social discussion. Many persons seem to suppose that facts carry their meaning along with themselves on their face. Accumulate enough of them and their interpretation stares out at you. The development of physical science is thought to confirm the idea. But the power of physical facts to coerce belief does not reside in the bare phenomena. It proceeds from method, from the technique of research and calculation. No one is ever forced by just the collection of facts to accept a particular theory of their meaning so long as one retains intact some other doctrine by which he can marshal them." (Emphasis added.)

The problem of accountability that we are faced with today is not the result of the absence of facts and data for the public to view on the subject--it is the overabundance of information. What is really required to be accountable is not the production of miles of computer printouts or research papers that gather dust, but the leadership of educators in communicating to the public in layman's terms what all of this information means in terms of the education of their children--where we are doing a good job and where we are doing a poor job and how we intend to improve our shortcomings.

We need to approach this on two broad fronts. First, school administrators must be fiscally accountable. We hear all too often that the schools could meet all of the public's expectations with existing resources if only proper management techniques were used, yet school needs always outrun school funds. Fiscal accountability means educators must be prepared to identify priority problems with the direct involvement of the people served. The second, and probably more difficult, aspect of this is performance accountability. We must have a way of indicating, in a manner the public can understand and accept, the quality of our educational programs. The only comprehensive system of measuring performance is the statewide testing program which has only served as a format for confusion. Very few communities escape those newspaper comparisons of district's scores, state scores and national norms--all of which seem to indicate that for whatever the reason--Johnny can't read.

Educators must be prepared to provide the interpretation of the facts that Dewey talks about rather than allow this directionless confusion to continue. Further, if the testing system is as many contend, insufficient, it is the professional's role not to simply reject it out of hand but to build on it from other sources to recommend improvements and, most importantly, translate its results into understandable terms.

If we do not accept this challenge, the resistance to supporting our schools will grow, along with more prescriptive mandates from the state level like those dealing with class size, administrator/teacher ratios and use of funds. It is, therefore, our responsibility to get busy and exert the leadership which the public expects so that the desire for accountability will be satisfied through better understanding.

SYMPOSIUM V

ACCOUNTABILITY IN MATHEMATICS

Chairman: Dr. Garford Gordon
Research Executive
California Teachers Association

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ACCOUNTABILITY IN MATHEMATICS LABORATORIES

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One of the current fads in mathematics education is the *math lab*. However the term *math lab* defies description. Schools that have these labs generally developed them on the supposition that mathematics learning will increase along with student attitudes toward the subject. Theories underlying *math labs* are difficult to articulate and understand. Furthermore they are seldom supported by any substantive research. Also there has been little teacher training and/or preparation on how to use a lab and evaluate its effectiveness.

This paper is devoted to discussing the results found in a *math lab* program developed at San Fernando Valley State College in conjunction with Los Angeles Unified School District. This program was begun under the auspices of Trainers of Teacher Trainers in 1969. The objectives for the *math lab* were:

LONG RANGE OBJECTIVES:

1. to develop a multi-component mathematics laboratory for training future mathematics teachers.

2. to explore new teaching/learning strategies in mathematics education through a laboratory environment.

3. to evaluate the effectiveness of the various laboratory components relative to: (1) master teachers, (2) student teachers, (3) Junior High students, and (4) college personnel.

4. to create a computer monitoring program for scheduling students to various laboratory activities depending on their needs.

5. to evaluate the effects the laboratory has on the San Fernando Valley community and the Los Angeles Public School system.

SPECIFIC SHORT RANGE OBJECTIVES:

1. to develop and define the mathematics laboratory as a physical plant.

2. to schedule all Junior High mathematics classes in the laboratory for orientation sessions, about 1500 students.

3. to schedule selected Junior High mathematics classes for intensive instruction on a regular basis in the laboratory.

4. to select and train master teachers from Patrick Henry to use the laboratory facilities for their classes.

5. to select and schedule S.F.V.S.C. student teachers to teach their classes in the laboratory.

6. to develop curriculum materials compatable with both the existing mathematics program and a laboratory approach to teaching mathematics. This will include preparing laboratory lessons, unit plans, and activity kits.

7. to evaluate the effectiveness of the various components and equipment in the mathematics laboratory. Specifically to evaluate:

    a. Laboratory Activity Sheets
    b. Computer Hardware
    c. Selected Mathematics Readings
    d. Filmstrips, Film Loops and Transparencies
    e. Audio Tapes and Listening Posts
    f. Student Projects - Individual and Group
    g. Mathematics Games

8. to train and evaluate teaching strategies in the mathematics laboratory. Specifically to train teachers in:

    a. Team Teaching - teams to be composed of college professors, master teachers, student teachers, and Junior High students.
    b. Team Learning - students working as teams using various laboratory facilities.
    c. Large Group Instruction using auditorium facilities.

9. to use the time-share computer facilities to help master and student teachers in record keeping and to prescribe learning activities.

10. to give all future mathematics teacher instruction on a laboratory approach while enrolled in methods courses at San Fernando Valley State College.

11. to establish an Advisory Committee of community, college, and public school personnel.

A few of the findings that will be reported on at this session include:

1. Seventh graders gained 2.5 years in computation skills, but only .9 years in arithmetic reasoning. However, some individual students had extreme gains which indicate that this lab is highly beneficial for some students. The question now is, what kind of student.

2. Student teachers who taught in the mathematics laboratory expressed differences in the time required for lesson planning as compared with traditional lecture-discussion session, etc.

3. Master teachers reactions tended to be favorable, however they have many specific concerns regarding the amount of time students should spend in a laboratory, role of textbooks, etc.

4. Student attitudes as measured by a modified Hoyt-MacEachern Attitude Inventory indicated a loss of interest in mathematics for many students as a result of the laboratory experience.

The implications of the findings from this TTT program seem to indicate that a *math lab* is indeed a highly complex learning environment. Accountability must be defined in a very specific terms relative to each student, the teacher, and to the particular device and/or laboratory lessons being used. The role of the teacher in mathematics laboratories is considerably different from that of a traditional lecturer. The teacher training program at San Fernando Valley State College is being altered to incorporate the findings from this reasearch.

We are now beginning our third year in this project. It now includes two junior high schools and one senior high school, a total of about 5000 students.

SOME COMMENTS ON ACCOUNTABILITY IN MATHEMATICS EDUCATION

Edward Griffith Begle

(Edward Griffith Begle is Professor of Mathematics Education at Stanford University and Director of The School Mathematics Study Group. He received both his B.A. and M.A. degrees from University of Michigan, and his Doctorate degree from Princeton University.)

The word "accountability", when used in discussions of education, often means that some person (e.g., teacher) or institution (e.g., school) or educational procedure (e.g., individually prescribed instruction) is assigned the responsibility for a specified amount of student progress toward specified goals. This is in contrast to assigning the blame entirely to the student in case of failure.

Goals and objectives can be specified and tested for much more sophisticatedly now than ten years ago.

However, in practice we seem to avoid careful examination of objectives. Instead, we use existing tests and hence the objectives implicit in them. This is bad for two reasons. Many of these tests are out of date in view of the major changes in math curriculum in the last decade. Also, they were designed for evaluation of individuals, rather than teachers, schools, or programs. In particular, standardized tests do not cover the range of objectives any careful review is likely to provide.

During the past decade, a number of schemes for examining objectives have been suggested. Each of these schemes takes the view that the objectives of mathematics education are multivariate. Generally, they classify objectives along two dimensions, content and cognitive level. Thus, for example, SMSG uses this matrix:

	Arithmetic	Algebra	Geometry	Function
Knowledge				
Computation				
Understanding				
Application				
Analysis				

To state the objectives of a particular course, or sequence of of courses, the relevant boxes are specified.

Of course, in practice each column is split into finer subdivisions. For example, arithmetic could be split into whole numbers and fractions, and of course there are obvious ways of further subdividing. The finer the subdivisions, the more specific the objectives.

Once the objectives of a particular course of study have been decided on, then it is necessary to construct instruments to measure progress toward these objectives. This is done by constructing a subtest for each of the boxes relevant to our objectives and putting these subtests together to form our evaluation test. Naturally, each subtest needs to satisfy the usual criteria: internal reliability, discriminating power, etc. This generally requires a dozen or more items, which makes it clear that current standardized tests are insufficient. They do not contain enough items to take care of all boxes.

You will now complain that such a test as described above is too lengthy, that it would take more time for a student to work through it than is available. But now we must remember that we are not interested in assessing the success of individual students, but rather of teachers, schools, or instructional programs. For these, it is not necessary to administer the entire test to each student. Instead, each subtest can be administered to a randomly selected subset of the students. The success of the teacher, school, or program can now be estimated from the results obtained with the random subsets. This procedure, called "item sampling," has been known for some time, but does not seem to have been widely used.

Evidence that these procedures are not fanciful dreams comes from the fact that they were followed successfully by the National Longitudinal Study of Mathematical Abilities and from the fact that the California State Department of Education has commissioned tests of this kind for evaluating the State program at grade levels three, six, and eight.

To summarize, in two important aspects of accountability, setting clear, sensible goals and using appropriate measuring instruments, we are potentially in good shape in mathematics education. We can do a good job along these lines if we want to.

But let me turn now to another and gloomier picture. Starting in the fall of 1962, the School Mathematics Study Group conducted a long term study of mathematics achievement. Several tens of thousands of students were involved, starting at grade levels four, seven, and ten. These students were tested extensively each fall and each spring. In addition, much information was gathered about the students' families, schools, communities, and teachers.

The teacher information was collected in order to follow up the vast number of studies previously carried out on teacher effectiveness. It included not only the usual background information on education, years of experience, amount of recent in-service training, etc., but also attitudes toward mathematics, toward teaching, toward students, etc.

Only recently have we had time to analyze any of this teacher data. We computed an effectiveness score for each of the teachers involved in this study during the 1962-63 school year. The effectiveness score was based on the achievement of the teacher's students during the year, with initial achievement and mental ability factored out.

We were not surprised to find that there was considerable variance in these effectiveness scores. This was true for both male and female teachers, for each of the three grade levels, and for effectiveness measured by student achievement both in computation and in understanding of mathemat-

ical concepts.

In view of past research, we were not surprised, although we were disappointed since we had high hopes for our new measures of teacher attitudes, to find that none of the teacher information we had collected was able to account for much of the variance in effectiveness.

All of this is merely to provide background for our next analysis. We found that a substantial number of teachers who had been teaching our fourth grade students in 1962-63 were teaching some of our fifth grade students in 1963-64. Similarly, a number of the 1962-63 seventh grade teachers in our study were also involved at the eighth grade level in 1963-64.

We thus had the opportunity to compare the effectiveness of teachers in one year with their effectiveness in the following year. The results surprised us. The correlations between Year 1 effectiveness and Year 2 effectiveness were uniformly low. If a teacher is effective one year we should not expect that he will automatically be effective the next year.

The implications of these findings for accountability in mathematics education are twofold. First, since the effectiveness of teachers is not a stable trait, it is necessary to measure it frequently. What is worse is that if a teacher is not performing at the level we wish, we do not have any suggestions to offer as to how he might increase his effectiveness. At the same time we have no grounds for getting rid of the teacher. Poor performance last year does not imply poor performance this year.

SYMPOSIUM VI

ACCOUNTABILITY IN SOCIAL SCIENCE

Chairman: Dr. Daniel Freudenthal
Berkeley Unified School District

Participants: Gene Geisler, Professor
San Francisco State College

John Westfall, Associate Professor
Department of Geography
San Francisco State College

Lynn Reynolds, Sociologist

ACCOUNTABILITY IN THE SOCIAL SCIENCE CURRICULUM AS A SOCIAL PROBLEM

Lynn M. Reynolds, Jr.

It is difficult to think or write about accountability in the social science curriculum. In the first place there is no direct relation between the two. Many systems, sets of people, and unanticipated intervening variables associated with elapsed time must be taken into account before one can get from curriculum content to output accountability measures. The two notions cannot be balanced like a double entry bookkeeping system where one penny of input can be balanced against another penny of output. To imagine that there is a clear and mechanistic connection between the two is largely nonsense.

A recently published article by Herbert Blumer[1] supplies a set of ideas which are singularly appropriate for understanding problems like the relationships between curriculum and accountability. I will take the liberty of cribbing extensively from his analytical scheme. While this procedure may raise as many questions as it answers, there is no doubt that they will be questions amenable to solution.

Blumer's position is beautifully summed up in the following:

> Sociologists have erred in locating problems in objective conditions. Instead, social problems have their being in a process of collective definition. This process determines whether social problems will arise, whether they will become legitimated, how they are shaped in discussion, how they come to be addressed in official policy, and how they are reconstituted in putting planned action into effect. Sociological theory must respect this process.[2]

There is little doubt that contemporary public education has come to be a social problem. It is a problem to students, parents, teachers, administrators, legislators, the courts, etc. ad nauseum. The "problem" plagues these and other constituencies from the time they are students until they live on fixed incomes (high or low). It harasses the rich and the poor,

[1] Blumer, Herbert, "Social Problems as Collective Behavior." Social Problems, 18(3):298-306, Winter 1971.

[2] Ibid., p. 298.

the overclass and the underclass, the urbanite and the farmer, the whites, blacks, and the third world. The "problem" is pandemic.

The problem with the "problem" is that it has not yet been put in a form which is amenable to solution and at the same time congenial to human beings or the institutions they have created. The formulation of problems is structured on a model of the particular world under investigation.

This short essay will use Blumer's model to examine the problem posed by curriculum content and development. At the same time it will demonstrate, mostly by example, how accountability, pursuing a parallel course, follows its own career. At various stages in their development each affects the other. These interactions will be typified wherever possible.

Consider the first stage in the career of a social problem -- its emergence. To begin with social problems are not an intrinsic malfunctioning of society, but rather the result of a process by which given conditions are identified; they simply don't exist for the society until defined as such. Social science curriculum has been problematical to those responsible for planning it. It is patently impossible to include all human affairs in the curriculum. Decisions about what should and should not be included have plagued planners for many years. Until recently these decisions had been left to the "professionals" in the field. The "experts" were their own watchdogs. They were responsible only to themselves and to a limited number of other constituents, e.g., governing boards issuing administrative fiats, legislators, professional associations. Historically, there has been considerable consensus among these groups.

Times do, however, change. Nascent and burgeoning social movements, notably among blacks, and subsequent reaction have subjected nearly every fibre in the fabric of society to scrutiny and often attack. These acts have led to postures of rectitude and defensiveness. Social science curriculum has been no exception. New constituencies have arisen and have demanded "accountability" and they now include not only the experts in curriculum and the traditional watchdogs, but also students, ancillary faculty, counsellors, parents, "taxpayers," special interest groups such as organized minorities, and a host of others. In one context or another at some time or other each of these constituents demands accountability from the others. The criteria for accountability run the gamut from money and time through type and qualifications of professional staff and changes in pedagogical procedures. Because of the demands for curriculum revision, because of the attempts to meet them, because of the demands for accountability, and because of the "justifications" submitted in response to the demands, social science curriculum -- together with other curricula -- had emerged as a social problem.

The social science curriculum became legitimated as a problem with the advent of study groups, master plan committees, and similar aggregates of citizenry interested in public education. The important dimension added at this stage was the involvement in the planning process of "respectable" elements of the community. The inclusion of these kinds of people had the effect of adding more constituencies and more accountability criteria, but more important was its legitimating function.

In recent years this legitimation by study and action-oriented

groups led inexorably to discussion of curriculum, to controversy about it, to clashes between those who sought change and those who wished to protect vested interests. Most or all of the discussion, debate, and disagreement about curriculum received currency in private conversation, the mass media, in committee hearings, and in legislative sessions. In this dialogue changes in curriculum were proposed and opposed. The important outcome is that various camps, each supporting a particular view of social science curriculum content, each having varying criteria for accountability, became mobilized for action to advance their position. And take action they did.

Each of the diverse groups presented its case and its notions of accountability to the legislative body responsible for curriculum content, which at this point acted the part of Solomon as best it could. From public hearings, committee meetings, and executive boards official plans of action were worked out. These invariably represented compromise -- the result of bargaining, tradeoff, concession, deference to power, and an empirical respect for what might be workable concerning curriculum and accountability.

In most parts of California we now have the opportunity to see how well or poorly the official plans of action are being implemented. Some school districts seem well ahead of others in this connection. The outcomes remain to be seen.

The overriding points this paper has made are three: 1) The social science curriculum is not <u>per se</u> problematical. It is differential definitions of what ought to be the curriculum that constitute the problem. 2) Accountability <u>per se</u> is not a social problem; but who demands what kind of accountability from which bodies, for what curriculum, is a problem. 3) Social science curriculum and accountability cannot be thought of as static entities; they must be considered dynamically if they are to reflect and engender respect for the social world which gives them birth.

THE COMPUTER, ACCOUNTABILITY, AND THE SOCIAL SCIENTIST

John E. Westfall

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This writer becomes nervous when he hears the term "accountability." One reason is that this word leaves several questions unanswered: Who is accountable to whom for what? As this brief consists of this writer's experiences and views, who means "him, the college instructor." As for what and to whom, the statement that will be used here is specific to the social sciences: "The social science instructor is accountable to the student for developing in him a degree of understanding of how his society, and other societies function, how they have changed, are changing, and may change or be changed in the future."

This is, of course, simply a statement of personal philosophy, and may well be criticized for being naive ("the student" instead of "the instructor's superiors"), limited (accountability certainly extends beyond the instructor only) and vague (who says what "degree of understanding" means?). Nonetheless, this statement highlights the role of interactive-mode computing in the classroom as regards accountability. The specific aspects of this role as described below stem from the classroom experiences of this writer and his computer-using colleagues.

First, the computer, indirectly, performs an objective evaluation of student performance (and hence instructor performance) independent of the instructor, thus somewhat relieving the teacher of the ironic task of evaluating the effectiveness of his own teaching through examinations, essays, and so on. The computer is a rigorous taskmaster in itself; a program will either work correctly, work incorrectly, or not work at all. Seated at an interactive computing terminal, a student very quickly becomes aware of his own successes and mistakes, and also any gaps or errors in the information given him in the classroom. Indeed, in courses which rely

heavily on student computer usage, most student evaluation beyond evaluation of computer runs, and the presentation, analysis, and interpretation of their results, has been found to be redundant by this writer.

Second, computer-using classes tend to be enthusiastic ones. This may seem surprising in view of supposed student antipathy to technology, but there are several reasons why students can like the computer. One, of course, is the rapid response time of an interactive computer system, where the user actually converses with the system. Also, the student is usually pleasantly surprised at the ease with which he can learn the rudiments of a programming language and begin to make the computer work for him. The results of this enthusiasm are improved class morale and such surprising and gratifying things as finding students voluntarily spending more out-of-class time investigating this new tool than once would have been believed possible.

Such enthusiasm is very desirable, but, it may be argued, not central to the aforementioned goal of educating an understanding of social processes. Here, the high speed and large "memory" (information storage) of modern computers allow the student to investigate in detail, and even try variants of his own with, many problems and models of social systems which would be too complex and time-consuming to do in a pre-computer curriculum. In this writer's "Population Geography" course, computer simulations of social systems through time have been found useful and instructive (eg., one study involves changes in land use, population density, and urban:rural ratio, in a region undergoing "sequent occupance" by different societies). Other exercises in this course involve projections of population numbers, characteristics, and distribution into the future. Classes feel that this application of the computer is valuable for two reasons--first, current concern for our perceived environmental and population problems and, second, the realization that the future being projected could possibly be the student's future world. In these exercises, a few seconds of "computer time" save many hours of student time; for once, the student has time to interpret and perhaps even to understand.

Such is the present status of computing, at least as observed at one institution. Computing enthusiasts like to say "this is only the beginning," and this is probably true. Nevertheless, computers are expensive investments and the future extension of their use in the classroom should be considered from a number of aspects, including that of accountability. Even taking the narrow (but practical) viewpoint of equating accountability with "saving the state money," the increased use of the computer has much potential; computers can take over at least some of the routine duties of the instructor, allowing him more efficiently to teach, rather than to monitor or to evaluate. More intellectually justifiable is the possibility of using the speed and flexibility of the individual computing terminal to enable the instructor to help the student to proceed in his own direction and at his own pace to investigate and to develop the "degree of understanding" of society called for in the original statement of accountability.

SYMPOSIUM VII

ACCOUNTABILITY IN LANGUAGE ARTS

Chairman: Dr. Harold Weatherbe
Assistant Research Executive
California Teachers Association

Participant: Sidney Lester, Director
Marin Social Sciences Project
Marin County Board of Education

Ruminations and Research Related to Accountability

G. Sidney Lester

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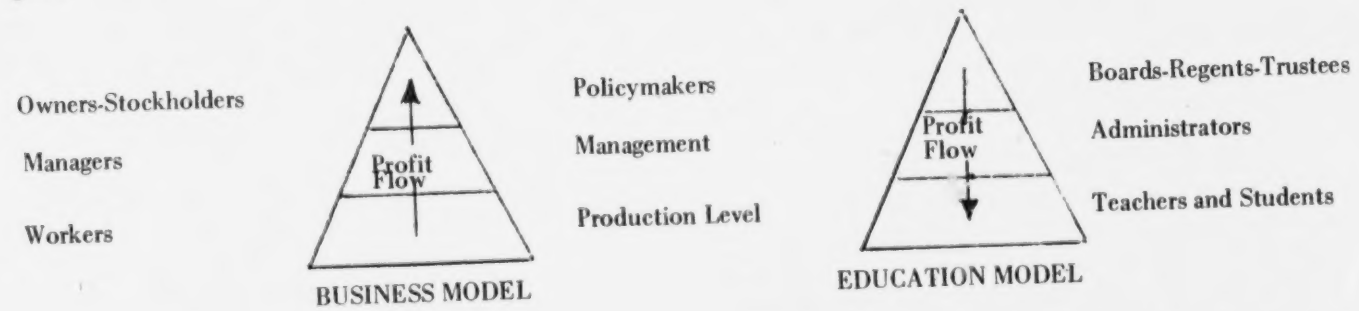
The notion that accountability can be superimposed upon the educational enterprise is is extremely vulnerable for several reasons. This vulnerability has nothing to do with accountability per se, since it is merely a tool for doing a better job. Rather, recent attempts of educators to employ accountability measures have revealed the dysfunctional nature of educational practices, agencies, institutions, lobbies, commissions and legal codes.

The implementation of accountability in education will require the abolition and/or restructuring of most facets of the present educational structure. Educators have lived with organizational irrationality for so long that most of them simply fail to observe the obvious.

There are two functional figures in an educational setting, a teacher and a student. Upon these key figures has been superimposed a business-industrial model which is totally dysfunctional. (See figure 1)

Figure 1.



This structure is designed to speed profits to the few individuals at the top who have invested risk capital in the business venture.

This model is inappropriate for education since ALL profits in education (increased educational achievement) occur at the production level. The function of all individuals traditionally and erroneously called the "hierarchy" in the educational model is to serve as support personnel for those below. They should not be "in charge" of what students and teachers do, rather, they should be "responsive to" the necessary activities carried on by teachers and students.

Increased profits in the first system result from greater EFFICIENCY and ECONOMY on the part of the work force. In the other model greater profits are the result of greater AUTONOMY and LARGER EXPENDITURES of funds at the production level. The business model functions well when there is support from the personnel at lower levels for policy decisions. The education model functions well when there is support from above. The dichotomy is obvious.

A more reasonable model for education would result from the following accountability means-ends chain.

The Community	is accountable for the SUCCESS of
The School Board	is accountable for the SUCCESS of
The Superintendent	is accountable for the SUCCESS of
The Principal	is accountable for the SUCCESS of
The Teacher	is accountable for the SUCCESS of
The Student	who is the measure of the success of the above.

Accountability would also demand an evaluation system whereby success, that is, greater educational achievement on the part of students is measured. Social scientists have discovered that bureaucratic institutions have a tendency to become entirely self serving if they are not functionally organized.

There are three basic functions which must be fulfilled if an institution is to be viable. There must be 1) a planning function 2) an implementation function and 3) an evaluation function. In business and government these functions are present. (See figure 2)

Figure 2.

	PLANNING	IMPLEMENTATION	EVALUATION
Government	Legislature	Administration-Bureaus	Judical-Voters
Business	Owners-Stockholders	Management-Workers	Consumers
Education	Boards-Regents-Trustees	Administrators-Teachers	

In education there is no pre-designated or identifiable body of evaluators. Typically evaluation of the success of schools is left to planning or implementation personnel. When this is the case, there arises a conflict of interests which causes the evaluators to 1) develop systems to reject all negative feedback from consumers 2) cheat 3) lie 4) find scapegoats for failure and 5) place themselves in the position of making policy changes based on the demands of vocal radical minorities or individuals.

The legitimate evaluation of greater educational achievement on the part of students demands several modifications of present practice. First, goals of education must be established. These goals, established by whatever agency is designated as responsible for their production 1) must be based on the NEEDS OF STUDENTS and not based on the maintenance of traditional (and outmoded) disciplines, or values intended merely to perpetuate status quo societal norms, 2) must not be contradicted or countermanded by laws or regulations which are aimed at the preservation of bureaucracies within the educational institution.

Secondly, legitimate evaluation of schools must be based on outputs rather than inputs. (See Figure 3)

FIGURE 3.

ACCOUNTABILITY

REMOVES THE EMPHASIS FROM INPUTS	AND PLACES THE EMPHASIS ON OUTPUTS
...cost per child	...increased percentage of college entrants
...pupil teacher ratio	...lower percentage of dropouts
...new building design	...improved scores on standardized tests
...recruitment efforts	...reduction of vandalism costs
...years of staff experience	...reduction of anti-social behavior
...numbers of offerings and activities	...increased successful job applicants
...square footage per child	...more positive scores on school attitude surveys
	...greater community support for schools

Finally, successful and accountable educational programs can only be obtained when the ultimate educational decision making power is in the hands of teachers acting as professionals. Current education practice makes teachers into submissive, rule following civil servants with legal power to fight only for selfish gains.

Accountability will work in education only when teachers 1) are expected to meet criterion standards rather than follow rules 2) perceive of themselves as professionals responsible for justifying THEIR programs and 3) are provided the time and support necessary to make professional decisions.

SYMPOSIUM VIII

ACCOUNTABILITY IN VOCATIONAL EDUCATION

Chairman: Dr. Jerry C. Garlock
Coordinator of Research
El Camino Community College
Torrance

Participants: Wayne L. Butterbaugh, Superintendent
Southern California Regional Occupation Center
Torrance

Barry Jensen, Vice President
General Behavior Systems
Torrance

Richard S. Nelson
Chief, Program Operation Unit
Vocational Education Section
State Department of Education

ACCOUNTABILITY AND THE INDIVIDUAL LEARNER IN VOCATIONAL EDUCATION THE S.C.R.O.C. MODEL

Wayne L. Butterbaugh, Ed.D

Accountability in the broadest sense may be related to innumerable variables in education, such as instructor accountability, student accountability, institutional accountability, and fiscal accountability.

The Southern California Regional Occupational Center has also been cognizant of another element in the accountability continuum; specifically, the accountability of the learning institution and its entire staff to the individual learner, with his specific needs, learning style and mode of response, whereby every student can achieve success at his level of comprehension. Thus an institution where no one need fail.

The Southern California Regional Occupational Center is located in Torrance, California. The Center provides occupational training for six member school districts encompassing 33 high schools. Since its inception in 1967, the Center has been committed to implementing the concept of accountability in education. The overriding objective of the Center is to train high school students in a marketable skill whereby they will be able to earn a living in our highly technological society, and to provide this training as a part of their regular high school program. As an adjunct, we also train adult students when our facilities are not being used by the high school population. This fundamental objective is keyed directly to the concept of accountability in education.

To meet the needs of the individual learner, the Occupational Center has developed a systematic approach to the process encompassing course selection, course development and course implementation, as well as counseling and placement procedures before and after instruction.

The following is an outline of the steps which are taken when a new course is selected, developed, and implemented:

1. The need for the course is established.
This utilizes a three-fold approach. First, a survey of national occupational trends. The question to be answered here is: Will this course provide potential students with a skill which will be salable on a nation-wide basis in the future? Second, a survey of local industry job needs. Does local industry in the area to which the Center directly is responsible have the need for personnel trained in the identified area? Third, a survey of student interest in the course to be offered. Is this a course which the student will find attractive; will we have enough students to financially justify its operation? The primary purpose of this rather rigorous selection process is to meet the needs of the individual learner, in terms of future job prospects nation-wide, in terms of local job availability, and in terms of expressed student interest in the job for which instruction is to be provided. Thus, accountability to the individual learner begins with the selection of a particular course to be offered.

2. A course Advisory Committee is established.
The course Advisory Committee is composed of representatives from local industry who will ultimately be hiring graduates of the instructional program. This committee determines what general areas of the instructional program must be encompassed in order to provide personnel who will have the specific skills required for employment.

Here, accountability to the individual is in the form of a guarantee that the instructional program in which they participate will provide them with a skill or skills that are viewed as valuable by their potential employers.

3. Program requirements are identified and a Cost Effectiveness Analysis is performed.
Based on the recommendations of the course Advisory Committee, necessary equipment, personnel, and space requirements are identified. A cost effectiveness study of these program requirements is performed to ensure that each piece of equipment will provide the most efficient means of quality instruction.

Accountability to the individual learner here is in the form of quality of instruction. When technological advances mandate a newer piece

of equipment, and a possible additional initial capital outlay, such equipment will be acquired if it can be established that mastery of this equipment will be necessary for later job placement.

4. A Content Analysis of the course is performed.
It is during this aspect of course design and development that systems analytic techniques are introduced. The first step is to identify a Subject Matter Expert or SME. A Dictionary of Occupational Titles designation or designations is then selected on the basis of the general course outline which has been provided by the Advisory Committee.

In the Center's current programs, there are some 600 to 700 DOT's involved. Some programs, such as Business Procedures, have 70 to 75 separate DOT's. The fact that each DOT defines a specific entry-level job, and since many of the DOT's are in ascending order of difficulty, provides one means whereby we can guarantee that every student irrespective of individual differences is successful. Some trainees may be able to meet only one or two of the lower level DOT's in a class. Others may be able to meet all of the DOT requirements at the end of their program. However, mastery of even one DOT area of a course represents acquisition of a salable skill, the primary purpose of the Center. Once these DOT designations have been established, the SME, together with the Center Systems Analyst perform a task analysis of the course content. This may be based on both on-site visitations to various industries and on the content of the DOT description. The product of the task analysis phase of course design is a course outline, which contains the specific areas to be covered in the instructional program.

5. Terminal Performance Objectives and other course support documents are produced.
Based on the course outline, specific Terminal Performance Objectives are reviewed by the course Advisory Committee to ensure that all requisite skill areas are covered and also that no extraneous or unnecessary areas are being introduced which will be unproductive for the student. After the TPO's have been accepted, a course flowchart is produced for use by the instructor. A media breakout of all necessary instructional media to be developed and/or acquired for the course is produced. Additional instructional support materials are identified, designed, and produced.

At this point the course selection and development phase is complete. Each individual student is assured of an efficient instructional program that will provide him with specific skills leading to a specific salable job, and one for which jobs, locally and nation-wide, are currently available.

6. Identification/selection of course enrolees.
Based on the DOT job descriptions, prerequisite skills and abilities are identified which are necessary for successful job performance. Only those attributes which are mandatory for successful job performance are specified. For example, the ability to hear is not a requirement for a keypunch operator. Therefore, students who are hard of hearing or deaf may reasonably be admitted to the Keypunch course and still be assured, if they master the skills of the job, they can perform the job. Requisite attributes are compiled to form a course prerequisite description. Counselors, both at the Occupational Center and at the Center's member high schools, use these prerequisites and the students past performance in related courses as well as various employer, counselor, and teacher recommendations to assist the student in the selection of a specific course that will meet his needs and abilities. This process has resulted in a 90% rate of successful trainee course completion at the Center.

In terms of accountability to the individual student at the Center, this rather thorough process of counseling ensures that each student will select a course which meets his specific needs and abilities. No student is encouraged to enroll in a course in which he cannot be successful in terms of later job performance, and no student is encouraged to enroll in a course where all data indicate that he will later become dissatisfied and unhappy.

7. Course implementation and instruction.
At the time of initial course implementation several items are provided. The course terminal performance objectives have been written. A competent instructor, one who has worked in the area to be taught for a minimum of five years (and most have 10 or more years experience) and who has recent experience in the area, has been acquired. The bulk of the course support materials has been produced. What remains now is what may be termed "classroom management." Each course at the Center has an enrollment of approximately 18 individuals. Each individual in each course is different. Each individual in each course learns and performs at a different

rate, and in a different manner. Each individual in each course would like to finish the course, receive a Certificate of Proficiency and obtain a job after graduation. In course implementation and instruction, accountability to each of these individuals is mandatory and may be measured in successful course completion and job acquisition.

To meet this end, each student is permitted to work at his or her own rate. A "hands-on" approach, one which is directed towards performance of skills that will be required later on the job is utilized. Theory, written examinations and assorted useless paperwork is kept to a minimum or eliminated entirely. Course Performance Objectives and the continuum of entry level positions is delineated early in the course. All activity in the course on the part of the students and the instructor is directed toward meeting performance objectives and, thus, job requirements. Wherever possible a variety of mediated instructional tools are produced or acquired. These media modules are made as self-instructional as possible, so that the gifted students may speed ahead, while the slower students may concentrate on one area until they have mastered it. In course implemention self-instruction, individualized instruction, and performance mastery present the case, while the judge and jury of success are individual job placement and performance.

8. Course Revision and updating.

During this phase of the course development process the entire procedure is repeated. As required during the school year and at the end of each year, each course at the Center is examined both in terms of individual student interest and performance and the current job market. Courses leading to skills which are becoming obsolete are deleted or drastically altered. Instructional programs which have not produced successful students are scrutinized and revised. Instructors who have not implemented an effective instructional program are provided with in-service training and, where necessary, additional instructional support materials. In short, the concept of accountability to the individual learner at the Center encompasses the entire operation of the Center; where every student may succeed and leave high school with a marketable skill. With this thrust, secondary education will achieve two lofty goals - education that is relevant and education that is accountable to the tax paying public who support our schools.

ACCOUNTABILITY, ASSESSMENT, AND RELEVANCE

IN VOCATIONAL EDUCATION

Richard S. Nelson

(Richard S. Nelson is Chief, Program Operation Unit, Vocational Education Section, California State Department of Education, Sacramento. He received his B.V.E. degree and M.A. degree from San Diego State College.)

Accountability, assessment, and relevance are key words in the effective administration of California's program of vocational education. Vocational education must be conceptualized as a life-long program of career development. It now, more than ever before, must encompass significant socioeconomic concepts.

One of its major roles is preparing all citizens--especially the disadvantaged--to move from the possible misery of poverty and unemployment or underemployment to recognition through social mobility and meaningful employment and advancement up the career ladder.

Crucial to continuing and expanding vocational education career development programs for all persons--in all geographic areas--in all occupational areas--is the need for program flexibility that will provide multiple options for youth and adults in making career choices and changes.

No longer can thousands upon thousands of California's young men and women continue to leave high school with or without a diploma--unfitted for employment--unable or unwilling to go on to a community college, state college, the university, adult school, private school or college. As we ponder thoughtfully the growing charade of "irrelevance" in our schools and in our colleges, let's join the U.S. Commissioner of Education in his point of view that school administrators are preoccupied with "college entrance examinations" and that "general education" is a necessary requirement of success for all young people. Let's purge ourselves of this concept of academic snobbery.

I contend that vocational education is a responsible manpower delivery system that has performed well, not only in previous times of emergency, but through peace-time emphasis in the training and retraining of veterans of World War I--World War II--the Korean War--and now to our returning veterans of the Vietnam War.

The present federal-state-local system of vocational educatior offers a responsible and accountable delivery system that can appreciably

assist our state and nation find solutions to the massive social and economic problems that we now face.

The California State Plan for Vocational Education offers a broad base and a vehicle for the extension of services to many different types of groups through established federal-state-local relationships. It provides for:

- Career development activities in kindergarten through grade 10 for orientation, motivation, and exploration purposes
- Career preparation of youth in junior and senior high school, out-of-school youth, and adults for entry-level employment in all occupations
- Post-high school career preparation for the technical and para-professional occupations
- Opportunities for upgrading employed workers in all occupations to hold their existing positions or prepare for advancement or change in their occupational areas of interest and competency
- Provisions for impact on the home and family in the economic and consumer education needs of all people with emphasis upon those living in disadvantaged areas
- Provisions for adjustment and redirection of resources to areas of greatest local, state, or national need such as the unemployed, underemployed, handicapped, disadvantaged, and adult groups

It further provides for a broad spectrum of assistance in developing educational programs, activities, and services, including:

- Instructional cost
- Equipment and supply cost
- Administration and teacher education
- Construction cost
- Financial assistance to those who need such assistance to stay enrolled in vocational education programs
- Evaluative and accountability services

The persons in California who have immediate or potential NEED for vocational education must be counted in the millions. Approximately one out of ten of California's population is now able to depend upon four years of college preparation for occupational security. The result is that no less than 90% of all job seekers and job holders are prospective recipients of the services of vocational education as provided in California's public schools.

In a state where approximately eight million persons are in the active labor force, the acquisition of employability skills cannot be left to chance. Not only must thousands upon thousands of persons--youth and adults, men and women--be systematically prepared for initial employment each year--and year upon year--but those millions already employed must continually upgrade their skills and knowledge in order to maintain employment stability.

The most rigorous and time consuming part of developing a rationale for the accountability, assessment, and relevance of vocational education is that of program analysis. The first step is to determine the major functions that must be undertaken in developing the rationale. There are three distinct dimensions of inquiry inherent in this analysis.

1. To what extent can it be demonstrated that the GOALS and PERFORMANCE OBJECTIVES of the vocational education system are RELEVANT to the persistent and compelling social, cultural, and economic problems of the state, region, and nation?

2. Given relevant goals and performance objectives to pursue, to what extent can it be demonstrated that these goals and objectives are in fact being achieved by the system, both short and long term?

3. How can the system provide ACCOUNTABILITY while achieving its goals? To what extent are resources used optimumly? To what extent are individuals benefiting from the system's programs, services, activities, and organization?

Accountability for whom? For what? Accountability is the condition of being accountable, liable, or responsible.

Any discussion about accountability which includes performance contracting, performance incentives, merit salaries, and the voucher plan is bound to help educators think more precisely about their goals and the desired outcomes.

It is not a question of whether to have accountability in vocational education, but what kind of accountability will prevail.

The following items have contributed to the current interest in educational accountability.

- Federal emphasis on evaluation of school systems and their programs
- Review of education in terms of cost effectiveness
- Making school systems responsive to the clientele and communities they serve

What this means is that the management of vocational education at the state, regional, and local level must change and be accountable while producing a better product through the effective use of available resources. The focus must be on REALISTIC GOALS, PERFORMANCE OBJECTIVES, and an indication of DESIRED OUTCOMES.

Some definition of terms is needed at this point.

A REALISTIC GOAL is a statement of broad direction, purpose, or intent based on the identified needs of the state. A goal is general and timeless--it is not conceived with a specific achievement within a specified time period.

A PERFORMANCE OBJECTIVE is a desired accomplishment which can be measured within a given time frame. Achievement of the objective advances the system toward a corresponding goal. Accordingly, objectives that support and contribute to the achievement of the established goals must be developed.

A DESIRED OUTCOME is a measurable result of planned activities and achievement.

A PERFORMANCE INCENTIVE is a way to improve performance through rewarding personnel for measures of effectiveness in learning. This may be done through instituting a system of differentiated staffing.

PERFORMANCE CONTRACTING is to contract with an agency, public or private, to conduct specified instructional activities leading to specified measurable results.

Why goal setting?

- Total organization is involved in a common purpose
- Decision-makers at all levels are forced to review purpose, responsibility, and relative importance of program
- Performance objectives are established, requiring accountability of attainment
- Means are provided of assuring goals are translated into performance objectives and specific tasks

Goal setting is an ideal base for performance evaluation. Performance evaluation is not made in a punitive, policing climate to check up on people--but in a supportive, constructive atmosphere to find out how performance objectives were achieved--and if they were not, why not.

Much of the agony of our world today comes not only from the awareness of the multiplication of problems but the paucity of solid answers.

There is a crisis in international relationships--hot wars in Southeast Asia and the Middle East, and a cold war mentality in so many places. The crisis in our country, in our state, in our cities, in our schools, and in our race relations--these things disturb us.

It may be helpful to know that the Chinese translate the word "crisis" by two characters meaning "danger" and "opportunity." So, a crisis

presents a great danger--but also an opportunity to act. The danger is to stand still, be complacent, and maintain the "status quo."

The opportunities are many. The acceptance of the following key components of a responsible vocational education delivery system in California will assure accountability, assessment, and relevance.

1. Vocational education must become a part of the educational experience of all people.

2. Vocational education must be a principal element in career education in kindergarten through adult education programs.

   - Introduce the world of career to all school children grades 4-9
   - Provide career-choice exploration, counseling, and guidance as an integral part of career education grades 4 through adult education
   - Provide pretechnical, vocational, and technical programs at the secondary, post-secondary, and adult levels
   - Provide upgrading and retraining opportunities at post-secondary and adult levels

3. Vocational education must continue to be responsive to the local, state, and national labor market.

4. Vocational education must provide multiple options for youth and adults in making career choices and changes.

5. Job placement and follow-up must be an integral part of the school's system of vocational education.

6. Vocational education youth groups must continue to expand and be involved in the decision-making process of career education.

7. Private schools and private industry must continue to be an integral partner and part of vocational education programs.

8. Performance incentives will be utilized in the further expansion of vocational education.

The products of the school are educated persons. Youth are prepared for occupational life in keeping with their abilities, aptitudes, and for living in a constantly changing world--adults with improved occupational skills and understandings.

Assessment is needed of the product, and of the educational establishment and its operation. By assessment I mean to analyze critically and judge definitively the nature, significance, and status of merit of the educational endeavor. The responsibility for this appraisal task is shared

by the administrators, the supervisors, directors and coordinators, and the teachers.

Vocational education institutions, whether they be high schools, community colleges, or adult schools, must constantly evaluate if they are to stay in business. If they reach the point where their product no longer achieves the skills and knowledges necessary to successfully enter into and compete in the labor market, they are replaced by more desirable institutions.

INDUSTRYS EXPECTATION OF EDUCATION

Barry T. Jensen

(Barry T. Jensen is Vice President and Director of Behavioral Science at General Behavioral Systems, Inc. He received his B. S. Degree in Education from Brigham Young University, and his M. A. in Education and his Ph. D. in Psychology from Ohio State University.)

Describing what industry expects of education requires a statement of the functions to be performed by the school, e.g., vocational training, custodial care, basic skills development. It is also necessary to define the functioning; for instance vocational training might include basic skills development, job skills training, attitude formation. And these must be further defined.

Standards, or desired levels of attainment should be set. A simple example is that if industry expects education to provide vocational training to typists we ought to know how well industry expects the newly hired typist to perform in terms of speed, accuracy and other characteristics.

Another question concerns when vocational training begins, or when do we start vocational education as different from specific job skills training?

In an effort to get some information, I solicited 100 California companies selected at random from telephone directories in several cities. Returns were still being received by the date of preparation of this abstract and this is not a report on a representative sample. However, everyone of them indicated that vocational training is a function of the school and nearly half said that citizenship development is a function.

They were also asked to define vocational training in terms of what it should include and to indicate at what level in school it should begin. There was great variation in these responses. Development of work attitudes were seen as expectations.

I mention the questionnaire in order to illustrate the range and variety of objectives which industry holds for education. Most of industry's expectations deal with the affective domain of the taxonomy of educational objectives.

Some of what industry wants schools to do is to compensate for industry's failures, in the same vein that teachers often blame the home for the school's failures. In my little survey, development of punctuality was the most commonly mentioned expectation. I don't know of another objective in the affective domain which the schools emphasize so much. I'm not pronouncing judgment as to the success of the school in this area. But it does point up one possible weakness of the businessman -- that of setting and enforcing a standard. The school can lay a foundation of behavior but unless industry enforces its own standards in this respect, what should we really expect.

Schools are educating the workers of tomorrow. The increased emphasis of the U. S. Office of Education and the State Department indicate, to me, Educator's acceptance of this fact. This offer of Education and L. A. City have the objective that every high school graduates have a marketable skill. What jobs should we train for? I imagine that if we asked a group of industrialists they couldn't tell what specific jobs to train for. We can be sure of one thing, however; there'll always be a need for communicators, e. g., a secretary. She might use a voice-writer or other device to replace shorthand just as today she uses a xerox machine instead of carbon papers. So perhaps we should train secretarial people in the basic skills -- the art of filing and competence with machines.

The machinist's job is changing; we can look forward to radical adjustments having at least as great effects of production as the development of numerical control and automatic machine tools. So, the machine shop man-to-be should, become a reasonably competent with a range of equipment and tools so that he has a base from which to learn modifications -- he should be taught how to learn.

I am mindful of the fact that not all people are equally intelligent but I am also convinced that, given a properly stimulating environment, a youngster can do much more than we now expect and that even average youth can learn and to solve problems.

SYMPOSIUM IX

ACCOUNTABILITY IN PUPIL PERSONNEL SERVICES

Chairman: Dr. Lester W. Ristow, Assistant Director
Division of Research and Pupil
Personnel Services
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Participants: Thomas W. Smith
Director of Research and Pupil Personnel Services
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Stuart J. Mandell
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GUIDELINES FOR ACCOUNTABILITY IN PUPIL PERSONNEL SERVICES IN CALIFORNIA

Thomas W. Smith

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There has been a serious loss of public confidence in American education during the past few years. As social pressures and problems have increased locally and nationwide, an increasing number of citizens have expressed doubt as to whether the schools are doing a good job. A concomitant of this rising public doubt has been an increase in the pressures put on schools to provide evidence that various educational programs, including programs in pupil personnel services, produce desirable outcomes in student performance. In 1969, the State Department of Education organized a team of pupil personnel workers to prepare a Process Guide for the Development of Objectives in pupil personnel services. Following its introduction in 1969, the Process Guide was revised and currently is being published by the California Personnel and Guidance Association.[1]

The purpose of this monograph is to describe steps and procedures involved in the development of objectives-based pupil personnel services programs. Current thinking in education suggests that the development of objectives-based programs facilitate both effective planning

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[1] Accountability in Pupil Personnel Services: A Process Guide for the Development of Objectives, California Personnel and Guidance Association, 654 East Commonwealth Avenue, Fullerton, California 92631, 1971.

and consistent evaluation of educational experiences. Objectives-based programs have several attractive features that make them appropriate for school guidance programs:

1. Objectives-based programs focus more directly on student needs and behavioral outcomes than on the range and scope of services that might be provided.

2. Objectives-based programs stress the assessment of results and provide for the identification of students who need further or modified experiences to obtain the desired outcomes.

3. Objectives-based programs enable school staffs to make visible the successes of their programs through reports of explicit outcomes.

4. Objectives-based guidance programs offer systematic methods for evaluating on-going programs and planning improvements that will retain activities that are effective and will discontinue or modify ineffective procedures.

There are four major steps involved in an operation of an effective objectives-based pupil personnel program. These steps are as follows:

1. Develop specific objectives that are stated in terms of measurable outcomes to be obtained by students. These objectives should be based on an assessment of student needs as perceived by students and by pupil personnel services staff.

2. Select and present to students experiences and information designed to assist them in attaining their desired outcomes.

3. Assess the performance of students to determine the effects of the experiences and to identify students who do not obtain one or more of their desired outcomes.

4. Provide additional experiences to promote the attainment of outcomes for those students who do not obtain their anticipated outcomes from original experience.

The Process Guide describes procedures for assessing student needs and developing pupil personnel objectives and for implementing objectives and assessing outcomes. Specific examples of local district procedures and outcomes are provided.

OPERATIONAL OBJECTIVES: FIRST STEP TO PUPIL PERSONNEL SERVICES ACCOUNTABILITY

Stuart J. Mandell

(Stuart J. Mandell is Director of Research and Guidance of the East Whittier City School District, Whittier, California. He also serves as Adjunct Associate Professor at University of Southern California. He received both his A.B. and M.A. degrees in psychology from Occidental College, and his Ph.D. in Educational Psychology from University of Southern California.)

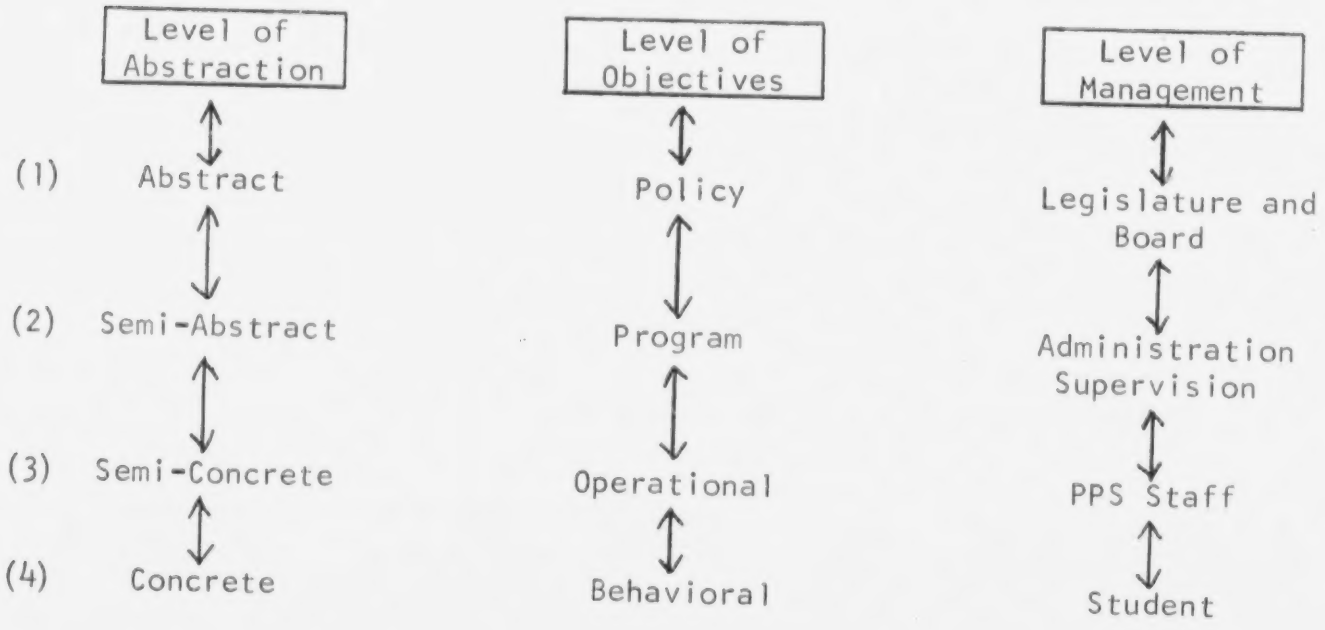
Central to the idea of "Accountability is the notion of "show me, I'm from Missouri." This plea for concreteness as a means to verification of results has recently emerged in a number of new phrases, "objectives-based approach," "management by objectives," "outcome-based management," "results-management," etc. All of these accountability oriented descriptors imply: (1) decision-making on the basis of whether some verifiable (observable or measurable) end is being approximated; (2) a concern for a fixed end with variable means rather than vice versa; (3) a concern for strengthening the output of the organization rather than merely maintaining it; (4) a recognition that the more we use abstractions to describe, the more error we introduce; (5) a recognition that preoccupation with process can impede the development of the product.

This concern for accountability achieved through objectives defined in verifiable terms has not invalidated previous goals for Pupil Personnel Services. Such goals as "increased self-understanding" or "greater self-acceptance" continue to have utility. However, they are insufficient for today's models which require maximum objectivity for reliability of observed progress toward objectives. Similarity, while it is impossible to expect complete cataloging of all legitimate behavioral objectives, writing about expected behaviors in concrete terms does reduce the chance that we will fool ourselves or others.

If we are to obtain maximum progress, there is merit to building on the gains of the past. To do so requires a means for translating the discourse of the past into the operations of the present. This is usually an exercise in going from the most abstract to the most concrete. A model for ordering and classifying objectives in accordance with their abstractness gives us two advantages: (1) it enables us to utilize long established value statements which are written as "goals"; (2) it permits the development of behavioral or performance forms of these statements for the purpose of assuring "accountability."

The model below shows steps which may be taken to translate goals or objectives from abstract non-behavioral to concrete behavioral forms. It shows how the levels of abstraction, levels of objectives, and levels of decision-making are interrelated. These relations should be viewed as relative rather than absolute. In actual practice, much overlap occurs in the process of decision-making.

FOUR LEVELS OF RELATIONS AMONG OBJECTIVES



In addition to providing a way of going from broad policy to specific behavior, the model is also useful for illustrating the division of authority and accountability in a school district. Hence, a logical way of allocating decision-making can be defined so as to achieve "management by objectives." In this way, a strategy can be outlined to help the student attain the goals set by society for the institution. A basis for priority-setting can be provided at each level by reference to the one above it. Hence level one, the policy level, defines the types of decisions appropriate for local and state boards, the State Department of Education, the Legislature, and community. At the program level, the administration of a system would have prime responsibility for decision-making. At the operational level, it would be the pupil personnel services staff; and, at the behavioral level, primary responsibility would be retained by the pupil. Hopefully too, policy would be continually adjusted in accordance with current needs assessment studies.

In considering the development of objectives for the purpose of decision-making, it is important that the parallelism of these processes be kept in mind. Problems arise when PPS staffers try to plan and measure their work using broad measures and program level statements of objectives. In such a case, the authority to modify activities, schedules, equipment, facilities, etc., necessary to produce change will be lacking. As an example, suppose a counselor were to propose "to strengthen self-confidence and increase academic motivation by providing eight hours of group counseling

(eight maximum per group) to all requesting." If 240 apply, there may be some difficulty because 30 groups would ordinarily be too much for one counselor; and, he would not have the power to increase staff to meet the demand.

A better strategy would be for the counselor to say, "Given two hours a day for eight weeks of group counseling, participants will be invited, screened, and selected for eight groups by October 1 using the following criteria....." The counselor is then in a position to develop and/or select objectives for the group members which can be defined at the operational level in terms of what behaviors or activities he will be responsible for in the group. Further related behavioral level objectives can then be developed in collaboration with the participants----i.e., with the counselor facilitating not "causing" (taking responsibility away from student) behavior. Performance criteria for the groups can then be defined so as to be semi-concrete statements of instances of desirable behavior change----- e.g., 80% will show gains. Measures can then be stated in formative terms which define progress rather than arrival as shown by the instrument chosen ----e.g., 80% will show gains in the use of "I can" over "I can't" when asked to rate a list of activities which they feel are important.

SYMPOSIUM X

PERFORMANCE CONTRACTING

Chairman: Dr. William Watts
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Department of Education
University of California, Berkeley

Participants: Ernest A. Poore
County Superintendent of Schools
Fresno

William Booth, Project Director
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A ONE YEAR EXPERIENCE IN PERFORMANCE CONTRACTING

William P. Booth

(William Booth is presently Assistant Principal of Fresno High School, Fresno, California. He served last year as the Director of the Office of Economic Opportunity Experiment in Performance Contracting in the Fresno City Unified School District. He received his B.A. degree from U.C.L.A., his M.A. Degree from Fresno State College, and his Doctorate from the University of Southern California.)

Performance contracting in education is a legal relationship in which one entity contracts with another (usually a private corporation with a public school system) to perform a defined educational function for which payment is to be provided on the basis of demonstrated success. The educational function to date has most commonly been instruction in reading and mathematics, and success or failure has been determined by standardized tests.

Virtually every educator has an opinion on the subject, and most are held with vehemence, since this phenomenon involves the potential restructuring of our public education system. Prior to 1971, however, only the Dorsett-Texarkana experiment provided any substantial experience in performance contracting, and conclusions in this project are still being debated. The experiment in which the Fresno City Unified School District participated during the past school year was a nation wide attempt, funded by the Office of Economic Opportunity, to provide a body of substantial experience. Hopefully, school districts will be assisted in making rational decisions in this area in which public pressure might well become acute.

Each of twenty-one school districts, ranging from Alaska to Florida, was provided approximately 300,000 dollars to subcontract with one of six O.E.O. selected performance contractors to teach reading and math skills to 600 students, 100 each in grades 1,2,3,7,8, and 9. Students selected were below average in tested ability in the two subjects, and from schools in which minority students predominated. Payment to the subcontractor in each case was based upon pre, post-test differences on instruments selected by O.E.O. and administered by an O.E.O. selected contractor. The over-all program evaluation, in addition, included a series of control schools with students selected on the same basis as those within the experimental group. In addition to the basic contract involving the O.E.O., the Fresno School District, and in Fresno's case, the Westinghouse Learning Corporation, separate contracts were let to private firms for purposes of student selection, management support, and calculation of final payments.

The Westinghouse system employed a behavioral objective oriented series of skill sequences, programmed in structure. Materials were selected from all available sources; few were created by Westinghouse. The only hardware employed were cassette tape recorders and nominal use of Bell and Howell Language Masters. The basic operational philosophy of the Westinghouse learning system is what the corporation terms "contingency management", in which positive activities are rewarded with "points" redeemable for small premium items. These incentives were used primarily as rewards for positive classroom behavior rather than for excellence of academic performance.

It is most unfortunate that at this writing the final post-test results are not available; my evaluative comments, therefore, must be in terms other than those basic to the planned evaluative scheme. In terms of our year's experience, and in the situation in which we operated, several positive aspects of performance contracting, or private involvement in public education, were in evidence:

1. Private industry has capital resources far beyond those of any single school district, even with governmental assistance, for the development of educational curriculum "systems".
2. The potential conciseness of performance contracting systems in terms of contract definitions, limitations, evaluative systems, and what has so far been the "rifle" approach to curriculum direction may be helpful in our development toward the thus far elusive concept of accountability.
3. Private contractors have personnel control to a greater degree than do public educators. This, of course, has potential for misuse.
4. Private entities, at least in our limited experience, are in a position to make change more rapidly than are we, within strictures defined by contract.

On the other hand, performance contracting, or private involvement in public education carries potential for some severe problems, among them:

1. An almost unavoidable conflict in authority and responsibility in the daily operation of the school, assuming simultaneous public and private involvement. To what degree may a school principal, for instance, interfere with the operation of a contract class when he feels the best interests of the child are not being served. A contractor could argue that the success of his system, and his eventual payment, could be jeopardized by such interference.
2. The separation of total school staff into contract-involved and non-contract involved groups, particularly if non school staff are employed.
3. The validity of the instrument of measurement is likely to be in question, no matter what it happens to be. The question ceases to be academic when payment is involved!

On the basis of the year's experience, our recommendations are:

1. Pursue performance contracting when you are sure that your own resources cannot fill the need, and that the contractor can.
2. Pursue performance contracting when you have a defined need, not when it appears an easy way out - it may not be.
3. Spend time on contract terms - in the long run it may be economical.

PERFORMANCE CONTRACTING

Ernest A. Poore

(Ernest A. Poore is County Superintendent of Schools, Fresno, California. He received his AB degree and graduate work from Fresno State College. He has been a coordinator of tests, guidance and research; director of special services; assistant superintendent for education; and has served on state committees implementing state mandated testing programs. He is currently the chairman of the ACSA standing committee on research and development.)

Performance Contracting, the larger issue of accountability, has been the topic and key issue of many national, state and professional conferences. It has been viewed as a fad, a gimmick, a detriment to educational progress, a take-over of education by private enterprise to the answers of school boards, administrators and teachers for quality education by stated behavioral objectives that are measureable within a predetermined period of time and a given achievement level.

Regardless of how you view Performance Contracting, it is essential that we as educators be aware and knowledgeable of its potential and its pitfalls if we are to be educational leaders. The performance contracting movement must be viewed as an increased commitment on the part of school boards, administrators, and teachers for accounting to their constituents and the demand for demonstrable results from the teaching-learning process.

There can be little doubt that federal assistance programs have demanded evaluation and accountability for many funded projects. From a sum of $250,000 it is now estimated that approximately 100 million dollars is being expended in performance contracting. A method or means of determining the product or proof of results--input to output.

In this presentation, I shall not endeavor to weigh the advantages and disadvantages of Performance Contracting because there are excellent articles and reviews regarding these basic points; however, I

would prefer to provide you with an outline and check list for your consideration, if and when called upon to discuss Performance Contracting.

Part I - Contract

1.00 General Purpose
1.01 Definitions
1.02(a) Statement of Work - General
1.02(b) Statement of Work - Specific
1.03 Period of Contractual Obligation
1.04 Relationship of Contractor to Subcontract
1.05 Evaluation and Follow-up

Part II - Criterion for Selecting Subcontractors

Part III - Monitoring and Payment Schedule

Part IV - Evaluation and Follow-up

SYMPOSIUM XI

ACCOUNTABILITY IN HIGHER EDUCATION

Chairman: Dr. Wallace R. Muelder
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ACCOUNTABILITY AND THE CURRICULUM

Kenneth C. Weisbrod

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One does not need to be an expert observer of the changing scene in higher education to be aware of increasing stress. We are clearly entering an age of accountability. Some questions to be answered at the college level are: what is to be taught; what is the most efficient means of instruction; what are the characteristics of the student population; what is the relationship between program objectives as perceived by the students, those program objectives as perceived by the institution; what does society expect of the graduates; and what evidence is there that current curriculum modifications will answer these and other questions.

The shift in emphasis seems to be from what is to be taught, to giving at least equal consideration to the learner and, how is he to learn most efficiently. New emphasis requires a more global concept of the curriculum-learner axis.

The call for accountability seems to be a natural concommitant of the bulging walls of classrooms, of failure to educate all students coming to the campus and the expectation that we increase the speed through the funnel while decreasing the costs of resources allocated such as: kinds and numbers of teachers, space and materials.

The single most important issue still remains - student accomplishment. Accountability requires a revised commitment that every student accepted by the institution shall learn. Such revision implies a willingness to change the system after finding causes for the failure of that sub-system which does not work. This will be accomplished by focusing attention upon organization, personnel, technology and the knowledge base, as well as upon the student. Without accountability for results good educational practice cannot be identified and poor practice may be perpetuated.

It is believed by many that accountability requirements during the seventies can bring about some dramatic improvement and that this improvement will overcome some aspects of the cultural lag under which higher education has existed for generations. Characteristic of this cultural lag is the notion that a college could improve its product by simply "beefing up" admission standards or the curriculum and thus discouraging larger numbers of

aspiring learners. For a long time the ratio of college dropout to graduate has been a matter of concern and embarrassment to at least some institutions. Especially when their examination of those who made it and those who failed does not reveal sufficient differences to explain the failure of so many. Is it reasonable to believe that the college curriculum assume accountability for its failures as well as the quality of its successes? If it is then some performance base must be established and some reliable sensing systems introduced to report symptoms of success and failure in progress and before the accomplished fact. We are talking about a sensing system analogous to the motor temperature gauge on the instrument panel of your car. It tells you how hot the engine is getting and gives you an opportunity to take some mediating corrective measures before the radiator pressure cap or the soft plug in the engine block blow out all of your water.

At California State College, Long Beach we have been working on a design for the study of what we term debilitating stress in the college environment which might shed some light upon factors contributing to student attrition and survival. We are seeking to identify and describe student attributes necessary to perform adequately and to analyze learning tasks within the college environment which contribute to student success or failure. Our design involves an information systems approach and employs human and automatic monitors for gathering and feeding stress information into a mediation center for analysis and feedback.

CURRICULUM ACCOUNTABILITY IN HIGHER EDUCATION: LESS TIME; FEWER OPTIONS

Leslie Wilbur

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At the outset let me suggest that I am pleased to see an increasing concern for accountability in the development of the curriculum of higher education. However, my comments on the issue must begin with the explication of several assumptions.

1. I assume that "accountability," which seems currently to be used as frequently and elastically as "motherhood" or "freedom" retains its root meaning, to account. The connotations of "reckoning," "responsibility," and "liability" are also near to those of "accountability."
2. Of the variety of definitions of "curriculum" available, I will try to stay with a fairly narrow definition, that of planned course work.
3. Moreover, I assume that among us there is no one so foolhardy--or perhaps so wise--as to offer visible resistance to the currently prevalent enthusiasm for "accountability".
4. A further assumption is that there is a need for change rather than confirmation of the status quo.

Compared with the curricula of earlier institutions, that of higher education seems more clearly of a cellular nature. The number, the variety, and the impermeability of the curriculum "cells" increase with each successive year of college. With the expansion of knowledge, accompanied by larger and more complex institutions, the professor's role in the curriculum development and control of has been enhanced. The teacher's ability to resist change from external stimuli seems to approach its apex in higher education.

For nearly a century the American university has held its professors accountable for performance of research and publication, which

have offered progressively larger rewards and thus have climbed steadily on the ladder of priorities. On the other hand, accountability in curriculum development has had relatively few rewards and consequently less attention than more visible and lucrative professional activities.

Nevertheless there is substantial evidence of fundamental changes which can increase the likelihood of curriculum change and the development of curriculum accountability. For example, the Carnegie Commission's report Less Time; More Options seems to be a visible part of the coalescence of attitudes of students, faculty and the general public. A general impatience with the years required by college curriculum is an appropriate stimulus to a closer examination of the what as well as the why of learning.

If higher education moves outside the college walls, and that movement seems inexorable, the pressures for the definition of objectives and evaluation of achievement in curriculum will grow. Many faculty members must respond to those pressures. Their aggregate response may increase the feasibility as well as their willingness to be held accountable for the curriculum.

College students are becoming more sophisticated learners, and at the same time more impatient with vaguely defined objectives and inappropriate or inadequate evaluation methods. Being held accountable themselves, students are increasing their demands for counterpart requirements of the instructor.

Moreover, the rising costs of higher education, coupled with little evidence of increased productivity, contribute to a growing public impatience with what seems to be a vague or mystical response to queries about the products of the higher learning. Granted that we within the system know all the "answers", those stock responses seem to be less acceptable even to many of those inside the walls.

Accountability is also easier to demand when there is a surplus of labor. For both teaching and administrative faculty members, the Seventies will lack the rosy hue of the Fifties and Sixties, when there was a short academic labor supply. A surplus labor market should increase the tractability of college instructors toward the acceptance of concepts which might in earlier decades be more securely rejected without consideration.

Change in American higher education usually takes place in a piecemeal fashion and with general reluctance. The Seventies, perceived from the threshold of the Eighties, should reflect substantial change. While the academic love for research cannot die, the infatuation should weaken appreciably. This decade seems to be one of broad accountability, including government, business, and industry. It seems unlikely that any part of higher education, but especially curriculum, can evade being called to account.

WHICH WAY, ACCOUNTABILITY?

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Accountability is very much with us these days, and it is so much a part of our educational world that some are even talking about different kinds of accountability.

Accountability seems to be unusually troublesome for educators who worry about such questions as "accountability for what?". There is some legitimate concern that we might identify some trivial outcomes which are highly measurable, and predicate our educational systems (both K-12 and higher education) on achieving some tangible but silly kinds of results. The trap could be a real one. In response to this fear, some accountability champions state that things of importance can be made "measurable" if we are only willing to extend the effort.

Measurability, then, would seem to be a central concern for educational planners, especially those who are trying to plan educational systems for an accountability regimen. Some among us, however, worry about the blind application of the "physics" model to education, and claim that there are a lot of things which do not lend themselves to arithmetic means and standard deviations. This latter group frequently, however, tends to want to do away with measurement because it is a destructive activity. It was to this concern over the differences between measurement and "bad" measurement that I attempted to develop a possible taxonomy of educational outcomes (Kaufman, EDUCATIONAL SYSTEM PLANNING, Prentice-Hall, In Press) to help to clarify several possible legitimate areas of measurement other than those directly requiring means and standard deviations. This possible taxonomy is reproduced in Figure 1.

From this figure it may be seen that there can be several different scales for both setting educational outcomes, and for measuring them, and thus several alternative bases for the determination of the extent to which an educational agency achieved that which it stated it would achieve -- accountability (Lessinger, EVERY KID A WINNER, Simon and Schuster, 1970). For instance, if we wanted to "improve learner self-concept" it might be possible to measure outcomes on an ordinal scale where it might be silly if not impossible to measure it with ratio scale instruments. Thus it might be possible to perform purposive design of educational systems to meet needs and to be accountable for achieving these outcomes if we do not mindlessly attempt to make all goals into measurable objectives (using the definitions implied by the suggested taxonomy) when such is not within our current behavioral science state of the art.

At least one caveat might be noted in the consideration for use of the suggested taxonomy of educational outcomes -- the validity of the accepted outcome specification. While it is perfectly possible to prepare measurable objectives, measurability does not mean validity! It is suggested that an assessment of educational needs (gaps between current outcomes and desired or required outcomes) be conducted to better assure the validity of outcome statements and thus assure an accountability which is reasonable and functional.

SUMMARY

Many outcomes which educators wish to achieve frequently defy quantification in terms of interval or ratio scale properties. Rather than restrict our accountability efforts to these kinds of outcome statements, a possible taxonomy of educational outcomes is suggested for consideration by educational planners. Aside from offering a possible standardization of the current nomenclature of outcome labels, it offers some possible greater flexibility in designing educational programs to achieve a reasonable and functional accountability.

Type of Scale	Outcome Statement Label
Nominal Ordinal	Goals, Aims, Purposes
Interval Ratio	Objectives (or measurable objectives, or performance objectives)

Figure 1. A Possible Taxonomy of Educational Outcomes. (Based upon Kaufman, R. EDUCATIONAL SYSTEM PLANNING, Prentice-Hall, In press)

SYMPOSIUM XII

ACCOUNTABILITY IN THE AFFECTIVE DOMAIN

Chairman: Dr. Mabel C. Purl
Director of Research and Evaluation
Riverside Unified Schools

Participants: Eli M. Bower
Professor of Educational Psychology
Director of Joint Doctorate
University of California, Berkeley

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EMOTIONAL LEARNING AND ITS EVALUATION

Eli M. Bower

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We have made two serious, almost catastrophic, errors in education. The first was the assumption that education as a process and the school as its executive institution were aimed at intellectual or secondary processes of thinking. The second error was that assumption that emotional or primary processes of thought could be developed and enhanced in man divorced and separated from intellectual or secondary processes. The first error was that of the scholar; the second, that of our sensitive and compassionate younger generation. Intellectual processes are integrally interwoven with emotional thinking in all living humans including the severely retarded and the psychotic. One can know intellectually what a blind person is by reading a book or attending a lecture about visual impairment. On the other hand, one can learn something entirely different by volunteering for work at the School for the Blind in Berkeley and experiencing blindness for part of a day. Knowing does not occur naturally as a direct result of shuffling around rooms with blinders fastened, even though this is a necessary component of emotional learning. One needs to tie relevant reason to the event to turn it into an experience. One needs a teacher; i.e., one who can help one experience or connect or integrate emotional and rational thinking.

Of the two modes of thinking, emotional thinking is by far older and more powerful and more influential on behavior. For some irrational reason we assume that emotional learning will automatically occur if children are left alone. In fact it is commonly assumed that learning in this modality is a process of managing feelings so that it does not interfere with real, i.e. intellectual, learning. Strong feelings get in the way of education--cold reason may leap over hot issues but rarely survives the chasm below.

Imagination and creativity are products of emotional thinking connected to intellectual knowledge. When Einstein's friend Janos Plesch compared mathematics to fiction writing, Einstein replied, "There may be something in what you say. When I examine myself and my methods of thought, I come to the conclusion that the gift of fantasy has meant more to me than my talent for absorbing knowledge" (Clark, R. W. Einstein: The Life and Times,

p. 87). Indeed, Hadamard in a study of creative mathematicians found that they thought in creative leaps which they themselves could not explain rationally except to say they "felt" that was the way the solution to a problem ought to go. What creative thinkers have as a rule is access to their imagination and a way of allowing it to send back signals to the intellect.

Freud in one of his few essays on education put it this way, "Education can without further hesitation be described as an incitement to the conquest of the pleasure principle and to its replacement by the reality principle... The substitution of the reality principle for the pleasure principle denotes no dethronement of the pleasure principle but only a safeguarding of it" (Freud, S. Formulations Regarding the Two Principles in Mental Functioning, 1911, p. 18-19). What Freud is saying is that education is a stirring up of the mind to control the emotions but such control does not denote a putting down of the emotions but an enhancing of it.

If we were to take this philosophy and concept seriously, what would it mean? First, it would mean accepting the legitimacy of emotional thought and its healthy relationship to development. Emotions are not to be the exclusive property of psychiatry, mental illness or blind aggression. Emotions are love, compassion, pity, sympathy and friendship--all that touches life with mystery and satisfaction.

How does one incorporate this skill with reading, arithmetic, science and physical education? As a start we are trying four types of programs to help teachers in this endeavor. These are: 1) creation and use of games and anagames in the classroom, 2) role playing and theatre game techniques, 3) giving teachers interpersonal skills in conducting classroom and parent discussions, and 4) developing a curriculum for elementary schools to help children learn behaviorally about human behavior. All of these programs are aimed at increasing a teacher's instructional skills and repertoire. There is no intent to offer solo emotional trips divorced from cognitive learning. The games we have in mind are learning experiences much like Scrabble, Monopoly or Democracy (a simulation game of the legislative process). In Anagames we help the teacher develop materials from which children can develop their own games. Role playing and theatre games are techniques for helping children "know" more about literature, social studies or current events by getting inside the skins of different people and looking at life from a different vantage point. Role playing is one way of restoring the cognitive-affective connection in actual classroom activity. Both games and role playing get children out of their seats, make active participants of them, turn teachers into guides and helpers and make teaching exciting and fun. There are many opportunities for all to learn in these approaches, including the teacher. One cannot get a program such as this into the schools without the teachers themselves experiencing these learnings and therefore feeling comfortable and creative in their use. There can be no forced learning or prescriptive lessons. If gaming or role playing is seen as foolish, unprofitable and dull, the class will not use it. If, on the other hand, teachers learn the skills well, they will transmit their know-how and enthusiasm to others.

How are such activities evaluated? A child who has learned mathematics or English can use and be tested on what he has learned. Similarly a child who has learned gaming, role playing or about human behavior can demonstrate this learning through his own behavior. Evaluation can be easily attained through direct observation and the use of video tapes.

A C C O U N T A B I L I T Y I N E D U C A T I O N

A B I B L I O G R A P H Y

Prepared by the Research Library, California Teachers Association

1. "Accountability in education," theme of Educational Technology, v.11, January 1971.
   Contents: "Robbing Dr. Peter to 'Pay Paul': Accounting for our stewardship of public education," by Leon M. Lessinger (special issue editor). "Applied accountability," by William A. Deterline. "Accountability, a system approach and the quantitative improvement of education--an attempted integration," by Roger A. Kaufman. "An assessment of accountability: the state of the art," by Merlin G. Duncan. "Accountability: comments and questions," by Robert J. Garbue. "Accountability and the organizational properties of schools," by L. Linton Deck, Jr. "Developing accountability in urban schools: a call for state leadership," by Medill Bair. "Moving toward educational accountability: Florida's program," by K. Fred Daniel. "Accountability in vocational-technical instruction," by James Straubel. "Accountability for student learning in the community college," by John E. Roueche. "Factors to consider in preparing performance contracts for instruction," by Albert V. Mayrhofer. "Specifying objectives for performance contracts," by H. M. Harmes. "Suggested schema for faculty commission pay in performance contracting," by George H. Voegel. "Performance contracting with existing staff," by W. Frank Johnson. "Accountability: the great day of judgment," by Robert D. Bhaerman.

2. Anderson, Scarvia B. "Accountability: what, who and whither?" School Management, 15:28-29+, September 1971.
   The Executive Director for Special Development, Educational Testing Service, looks at the parts of accountability, and the parties to it. Extracted from a talk given at the Ohio Conference on Testing.

3. Arnstine, Donald. "Accountability should be shared," California School Boards, 30:10-13, July/August 1971.
   A shared approach to the formulation and implementation of educational objectives.

4. Audiovisual Instruction, 16:3-34, May 1971.
   On the theme of accountability: "From gold stars to green stamps," adapted from a speech for an instructional conference of the Michigan

Education Association, by Anna L. Hyer. "Toward a better mix of teaching resources," by Ronald K. Randall. "Accountability and performance contracting: implications for the supportive staff," by G. H. Voegel. "Educational success planning: reducing chances as an aspect of school innovation," by Fenwick English, James Zaharis, Roger Kaufman. "Individualizing instruction--teaming teachers and media specialists to meet individual student needs," by Rita Stafford Dunn. "Project CAM: reaching objectives through learning modalities," by Lawrence T. Mello, Paula Tannenbaum, Edward R. Campbell. "Accountability and technology: a change of emphasis for business education," by Marvin W. Hempel.

5. Baker, Robert L. and Richard E. Schutz, editors. Instructional Product Development. Southwest Regional Laboratory for Educational Research and Development. Van Nostrand Reinhold Co., N. Y., 1971. 264 pages.
   Guides to developing instructional products. Each chapter is also published separately as a booklet:
   Stating Educational Outcomes, by Richard E. Schutz, Robert L. Baker, Vernon S. Gerlach.
   Constructing Objectives of Cognitive Behavior, by Robert L. Baker, Vernon S. Gerlach.
   Developing Instructional Specifications, by Howard J. Sullivan, Robert L. Baker, Richard E. Schutz.
   Educational Criterion Measures, by W. James Popham.
   Rules for the Development of Instructional Products, by W. James Popham, Robert L. Baker.
   Preparing Instructional Products: Four Developmental Principles, by W. James Popham.
   Managing Classroom Contingencies, by Jack Michael, Carole S. Waina, Robert L. Baker.

6. Beatty, Walcott H., editor. Improving Educational Assessment and an Inventory of Measures of Affective Behavior. Commission on Assessment of Educational Outcomes, Association for Supervision and Curriculum Development, NEA, Washington, D. C., 1969. 164 pages.
   Among the contributors: Ralph W. Tyler, Robert E. Stake, Daniel L. Stufflebeam.

7. "Behavioral objectives and human values," a supplement to Educational Technology, 11:35-56, June 1971.
   Contents: "To teach by behavioral objectives or not?" "Behavioral objectives: an even closer look." "Behavioral control: the matter of ethics." "The function of stated objectives in teaching for affective learning." "Objectives-based accountability procedures for classroom use." "An analysis of the artist-teacher's performance." "Methods for individualizing instruction."

8. Bendixsen, Marian F. "Performance contracting: a road to accountability?" Special report of the National Committee for Support of the Public Schools, Washington, D. C., March 1971. 8 pages.

9. Bloom, Benjamin S., J. Thomas Hastings, and George F. Madaus. Handbook on Formative and Summative Evaluation of Student Learning. McGraw-Hill, N. Y., 1971. 923 pages.
Deals with evaluation problems, educational objectives, using evaluation for instruction decisions, evaluation techniques for cognitive and affective objectives, evaluation systems, and levels of education.

10. Bloom, Benjamin S., M. D. Englehart, E. J. Furst, W. H. Hill, and D. R. Krathwohl. Taxonomy of Educational Objectives: Handbook I, Cognitive Domain. David McKay, N. Y. 1956.
The nature of, and classification structure for, the cognitive domain.

11. Brick, Michael. "School management...on purpose," California Elementary Administrator, 34:4-5, 23-27, October 1970.
Includes an "operational blueprint."

12. Briner, Conrad. "Administrators and accountability," Theory Into Practice, 8:203-206, October 1969.
This article is based upon a position paper the author (of Claremont Graduate School, Claremont College) prepared at the request of Leon M. Lessinger, who was then Associate U.S. Commissioner for Elementary and Secondary Education, August 1969.

13. Browder, Lesley H., Jr., editor. Emerging Patterns of Administrative Accountability. McCutchan Publishing Corp., Berkeley, 1971. 571 pages.
Accountability foundations, politics, economics and applications, for the school administrator.

14. California. Legislature. Joint Committee on Educational Goals and Evaluation. The Way to Relevance and Accountability in Education, Committee Report, May 1970. The Committee, Sacramento. ($1.25) 35 pages.

15. College Entrance Examination Board. Report of the Commission on Tests, v.1, Righting the Balance, and v.2, Briefs. The Board, N. Y., 1970.
The Board reviews its testing function and considers possibilities for changes, in view of the new accountability demands.

16. Costa, Arthur L. "Who's accountable to whom?" Educational Leadership, 28:15-19, October 1970.

17. Cunningham, Luvern L. "Our accountability problems," Theory Into Practice, 8:285-292, October 1969.

18. Darland, D. D. "The profession's quest for responsibility and accountability," Phi Delta Kappan, 52:41-44. September 1970.
Deals with what needs to be done before the teaching profession can become accountable for guaranteeing competent performance and ethical behavior for its members---particularly in the field of self-governance.

19. Denemark, George W. "Performance: teaching & learning," California Elementary Administrator, 34:21-23, May 1970.
The teacher education/accountability relationship.

20. Domyahn, Roger A. "Annotated bibliography on accountability," AV Instructor, 16:93-101, May 1971.
Items through January 1971.

21. Drumheller, Sidney J. "Behavioral objectives for the social studies in general education," Educational Technology, 11:31-34, September 1971.
Contains a chart of specific behaviors.

22. Durost, Walter N. "Accountability: the task, the tools, and the pitfalls," Reading Teacher, 24:291-304+, January 1971.

23. Dyer, Henry S. "Statewide evaluation---what are the priorities?" Phi Delta Kappan, 51:558-559, June 1970.
The vice-president of Educational Testing Service suggests six main purposes to be studied in working out statewide evaluation programs.

24. Ebel, Robert L. "Behavioral objectives: a close look," Phi Delta Kappan, 52:171-173, November 1970.
Justifications for, problems with, some limitations of, behavioral objectives.

25. _____. "Command of knowledge should be the primary objective of education." Today's Education, 60:36-39, March 1971.

26. Education Turnkey News. Monthly newsletter of Education Turnkey Systems, Inc., Washington, D. C.
News, analyses, special reports of performance contracts and/or turnkey operations.

27. Education Turnkey Systems. Performance Contracting in Education: The Guaranteed Student Performance Approach to Public School System Reform. Research Press, Champaign, Ill., 1970. 122 pages.
The Texarkana experience.

28. Elam, Stanley. "The age of accountability dawns in Texarkana," Phi Delta Kappan, 51:509-514, June 1970.
A detailed account, with some analyses and cautions.

29. English, Fenwick, and James Zaharis. "Are accountability and governance compatible?" Phi Delta Kappan, 52:374-375, February 1971.

30. Harlacher, Ervin L. and Eleanor Roberts. "Accountability for student learning," Junior College Journal, 41:26-30, March 1971.
The authors say, "If educators undertake to provide 'guaranteed accountability,' they will need the technological know-how of which private industry has been the sole source."

31. Jordan, Bennett. "Educational accountability: a crucial question," Junior College Journal, 41:23-25, March 1971.
Proposes a plan centering around an appointed committee which meets periodically to evaluate course objectives and teaching strategies.

32. Kapfer, Miriam B. "Behavioral objectives in music education," Educational Technology, 11:30-33, August 1971.
Objectives are considered from three viewpoints---academic discipline, in-life behavior, and personal medium for expression.

33. Kemp, Jerrold E. Instructional Design: A Plan for Unit and Course Development. Fearon, Belmont, Cal., 1971. 130 pages.
New approaches in instructional programs to achieve the new learning outcomes.

34. Klein, Stephen P. "The uses and limitations of standardized tests in meeting the demands for accountability," UCLA Evaluation Comment, v.2, 18 pages. January 1971. (Center for the Study of Evaluation, UCLA).
Discusses the improvements needed in standardized tests.

35. Krathwohl, D. R., B. S. Bloom, and B. B. Masia. Taxonomy of Educational Objectives: Handbook II, Affective Domain. David McKay, N. Y., 1964.
The classic framework for classifying affective educational objectives.

36. Lessinger, Leon, and Ralph W. Tyler, editors. Accountability. National Society for the Study of Education, Chicago (paper) and Charles A. Jones Co. ($2.95) 1971.
Considers accountability in terms of historical perspective. Attempts to anticipate the social consequences of the movement.

37. Lessinger, Leon M. "Accountability and curriculum reform," Educational Technology, 10:56-57, May 1970.
How the curriculum and school operations will be affected by the shift to demonstrated student learning and independent review.

38. _____. Every Kid a Winner: Accountability in Education. Simon and Schuster, N. Y., 1970. 239 pages.
Explains the thinking behind the development of "educational engineering" (accountability).

39. _____, editor. "Symposium on accountability," Journal of Secondary Education, 45:339-380, December 1970, and 46:3-8, January 1971.
Concepts of accountability, management by objectives, the performance contract, zero-failure schools, the leadership role of state education agencies, as well as a case study of the application of accountability in the Norwalk-LaMirada Unified School District, Norwalk, California.

40. MacDonald, James B. and Bernice J. Wolfson. "A case against behavioral objectives," Elementary School Journal, 71:119-128, December 1970.
The authors explain why they see the behavioral objectives model as inadequate and restrictive to the educational function of schools, and recommend the study of other approaches.

41. Mager, Robert F. Preparing Instructional Objectives. Fearon Press, Palo Alto, Cal., 1962. 60 pages.
This book concerns itself with "the form of a usefully stated objective, rather than with its selection."

42. Martin, Reed and Charles Blaschke. "Contracting for educational reform" Phi Delta Kappan, 52:403-406, March 1971.
Legal aspects of performance contracting.

43. Martin, Reed. "Performance contracting: making it legal," Nation's Schools, 87:62-64, January 1971.
Same condensed in Education Digest, 36:1-4, April 1971.

44. Mecklenburger, James A. and John A. Wilson. "Performance contract in Gary," Phi Delta Kappan, 52:406-410, March 1971.

45. Merrill, M. David. "Necessary psychological conditions for defining instructional outcomes," Educational Technology, 11:34-39, August 1971.
Specifies the conditions necessary for the establishment and observation of ten kinds of learned behavior.

46. Morris, John E. "Accountability: watchword for the 70's," Clearing House, 45:323-328, February 1971.
Reasons for the accountability movement, and what it will involve.

47. Phi Delta Kappan, 52:193-225, 231-243, December 1970.
Accountability articles in this issue are: "An overview of accountability," by Myron Lieberman; "An approach to developing accountability measures for the public schools," by Stephen M. Barro; "Toward objective criteria of professional accountability in the schools of New York City," by Henry S. Dyer; "A program of accountability for elementary schools," by Aaron Wildavsky; "Engineering accountability for results in public education," by Leon Lessinger; "Accountability in education," by Felix M. Lopez; "An accountability information system," by Richard M. Durstine; and "Commitment to competency: the new fetishism in teacher education," by Robert J. Nash.

48. Pierce, Wendell H., editor. "New directions for education? Performance contracting and the voucher system," (Symposium), Compact, 5:2-16+, February 1971. (A bimonthly publication of the Education Commission of the States, Wendell H. Pierce, director).

49. Plowman, Paul D. Behavioral Objectives: Teacher Success Through Student Performance. Science Research Associates, Chicago, 1971. 188 pages.
Suggestions for formulating behavioral objectives in eight areas: English and Literature, Social Science, Mathematics, Science, Reading, Art and Music, Health---with a bibliography in each area.

50. Popham, W. James, editor. Criterion-Referenced Measurement (An Introduction). Educational Technology Publications, Englewood Cliffs, N. J., 1971. 108 pages.
Criterion-referenced measurement, rather than norm-referenced, may

answer the measurement demands of accountability.

51. Popham, W. James and T. R. Husek. "Implications of criterion-referenced measurement," Journal of Educational Measurement, 6:1-9, Spring 1969.
Examines the implications with respect to variability, item construction, reliability, validity, item analysis, reporting, and interpretation.

52. Popham, W. James. "The Instructional Objectives Exchange: new support for criterion-referenced instruction," Phi Delta Kappan, 52:174-175, November 1970.

53. Ratliff, Frank E. "Accountability: at what cost?" English Journal, 60:485-490, April 1971.

54. Reynolds, Jerry D. "Performance contracting...proceed with caution," English Journal, 60:102-106+, January 1971.
Same condensed in Education Digest, 36:5-7, April 1971.
How a Keokuk, Iowa, school adapted the Texarkana techniques for a summer reading project.

55. Riles, Wilson E. "Priorities recommended for California schools," Compact (Education Commission of the States), 5:27-29, April 1971.

56. Roberson, E. Wayne, editor. Educational Accountability Through Evaluation. Educational Technology Publications, Englewood Cliffs, N. J., 1971. 107 pages.
Needs-assessment, program budgeting, program audit, performance contracts, and their part in accountability and evaluation.

57. Schure, Alexander. "An accountability and evaluation design for occupational education," Educational Technology, 11:26-37, March 1971.

58. Stenner, Jack and Michael H. Kean. "Four approaches to education performance contracting," Educational Leadership, 28:721-725, April 1971.
The approaches are: Competitive performance contracting model, Sole source performance contracting model, Modified sole source model, and Comparative performance contracting model.

59. Stocker, Joseph and D. F. Wilson. "Accountability and the classroom teacher," Today's Education, 60:41-56, March 1971.

60. Stucker, J. P. and G. R. Hall. The Performance Contracting Concept in Education.A report prepared for Department of Health, Education and Welfare. Rand Corporation, Santa Monica, Cal., May 1971. 71 pages.
This first of three reports explores the basic issues and considerations, and surveys the state of the art.

61. Sullivan, Neil V. "'Accountability means a partnership for our youth'," Massachusetts Teacher, 50:25-29, May/June 1971.
The Massachusetts Commissioner of Education believes there can be a meaningful relationsnip between industry and education.

62. Tyler, Ralph W. "Testing for accountability," Nation's Schools, 86:37-9, December 1970.

Dr. Tyler says more criterion-referenced tests and fewer standardized achievement tests seem likely, as the accountability movement puts greater emphasis on determining what and how much students have learned.

63. Western Interstate Commission for Higher Education. Outputs of Higher Education: Their Identification, Measurement, and Evaluation. Papers from a seminar conducted by WICHE, the American Council on Education, and the Center for Research and Development in Higher Education at Berkeley. Edited by Ben Lawrence, George Weathersby, and Virginia Patterson. WICHE, Boulder, Col., July 1970. 130 pages.

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